THE VALUE OF PRODUCTIVITY IN EMERGING MARKET FIRMS' CROSS-BORDER ACQUISITIONS OF DEVELOPED MARKET FIRMS

by

Yinuo Tang

B.A. in Economics, Tsinghua University, 2008

M.P.A, Cornell University, 2010

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This dissertation was presented

by

Yinuo Tang

It was defended on

May 7, 2015

and approved by

Jay Anand, Ph.D., Professor

Susan Cohen, Ph.D., Associate Professor

Rose Xiaowei Luo, Ph.D., Associate Professor

John Prescott, Ph.D., Professor

Dissertation Director: Ravi Madhavan, Ph.D., Professor

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Cross-border acquisitions are popular tools for EMFs to create value by obtaining strategic assets and exploiting their productivity advantages in foreign markets. My dissertation suggests that EMFs' productivity serves as a signal of value creation potential in their cross-border acquisitions of DMFs. Further, EMFs could enhance their returns by cross-listing on advanced stock market exchanges, and by accumulating cross-border acquisition experiences across heterogeneous institutional environments. A dataset of 466 Chinese Firms' cross-border acquisitions in the time period of 2000-2010 supported my hypotheses.

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1. INTRODUCTION

During the last two decades, the global economy has witnessed the rapid rise of multinationals from emerging markets. Outward Foreign Direct Investment (FDI) from developing countries has increased from 16.9% of global outward FDI in 1990 to 54.3% in 2014 (UNCTAD, 2014). Cross-border acquisition is an important strategic vehicle for creating value through international expansion. In the midst of rapid globalization, acquiring Developed Market Firms (DMFs) offers Emerging Market Firms (EMFs) the opportunity to seek strategic assets and upgrade their capabilities (Gubbi, Aulakh, Ray, Sarkar and Chittoor, 2009; Figueiredo, 2011; Hope, Thomas, and Vyas, 2011; Peng, 2012).

Despite the growth in the cross-border acquisitions of DMFs by EMFs, it is unclear how investors evaluate these acquisitions and whether EMFs create value through such transactions. Acquiring advanced technology and obtaining valuable brands are common motivations for emerging market cross-border acquirers (Antkiewicz and Whalley, 2006; Arnold and Javorcik, 2005, Peng, Wang and Jiang, 2008; Peng 2012). However, for completed cross-border deals, Aybar and Ficici (2009) and Moeller and Schlingemann (2005) found that EMFs on average receive negative market reaction. Given the mixed findings regarding investors' evaluation of EMFs' cross-border acquisitions (Aybar and Ficici, 2009; Gubbi, et al., 2009), it is important to learn more about how EMFs enhance their competitiveness through cross-border acquisitions of DMFs.

Given the vast institutional differences between emerging markets and developed markets, recent studies examining value creation in EMFs' acquisitions of DMFs have focused on the

influence of institutional characteristics (Gubbi, et al., 2009; Cuervo-Cazurra and Dau, 2009). Established internationalization theory suggests that cross-border acquirers are able to exploit their productivity advantages and cutting-edge business practices in foreign markets to create efficiency gains. In most of these studies, the acquirers are from transparent institutional environments and established industrial economies. However, these conditions are less immediately applicable to EMFs' cross-border acquisitions of DMFs. Motivated by the need to upgrade their capability, EMFs rarely have competitive advantages relative to their counterparts in developed markets (Peng, Wang and Jiang, 2008; Madhok and Keyhani, 2012). EMFs have limited experience of reallocating strategic resources across national boundaries or of navigating global markets. Further, the underdeveloped institutional infrastructure of emerging markets greatly complicates investors' evaluation of the potential deal value. Therefore, in the EMFs' acquisitions of DMFs, investors might be suspicious about the integration between acquiring firms and target firms due to EMFs' inexperience of competing in developed markets and the enormous differences between the two countries.

For emerging market acquirers, one effective way to reduce investors' evaluation discounting is to signal the potential value stemming from integrating DMFs and competing in developed markets. Thus this study examines how cross-border acquirers such as EMFs signal the value created in cross-border acquisitions to investors in order to receive favorable market reactions. Kaufman (1988) and Varaiya (1987) showed that acquirers need to signal their ability to improve the target's operational efficiency. A reliable signal should have observable substance, be costly to develop, and indicate the potential value created in the acquisitions of target firms in developed market. Previous literature found that (Gupta and Govindarajan, 2000; Capron and Pistre, 2002) superior productivity is an important competitive advantage of cross-

border acquirers and crucial for transferring and combining strategic assets across different institutional environments. For example, on Jan.5th 2008, Chinese renewable energy firm Xinjing Goldwind Group acquired Germany Vensys Energy AG and its stock price increased 3.22% right after the announcement. In contrast, investors' perception was less optimal of LDK Solar Co' s acquisition of Italian solar company Green Technology SpA in 2009. The stock price of LDK Solar decreased 3.11% on the day of announcement. Both of these two acquirers are non-SOE Chinese firms. They are both in renewable energy industries. The two target firms are European renewable energy companies. However, the productivity of Goldwind is 35% higher than LDK Solar. The superior productivity is not only an observable substance such as the amount of products but also crucial for potential value created in the cross-border acquisition deals. Therefore, in the acquisitions of DMFs, EMFs with superior productivity are more likely to receive higher evaluation from the investors.

Productivity is costly to develop in the emerging market institutional environment. EMFs are new to the market-oriented competing logic of developed markets and may not be able to comply with multiple institutional logics at the same time. In developed markets, competition selects the most efficient firms with distinguished capabilities. In contrast, in emerging markets, EMFs are motivated to seek rents (Luo and Junkunc, 2008) due to the lack of effective institutional infrastructures (Khanna and Palepu, 1997). Thus the institutional void of emerging economies also increases investors' suspicions about EMFs' potential to compete in developed markets. Underdeveloped institutional environments distort the market and increase the cost to enhance productivity, given that other non-market means are available for growth and profit. Thus EMFs need to signal their potential to compete in market-orientation institutions.

Further, through acquiring target companies, productive EMFs optimize shareholders' investment by controlling more productive companies in a more developed institutional environment. According to Assortative Matching Theory (Guadalupe, Rappoport, Salanie & Thomas, 2013), one necessary condition for creating synergy value is the existence of within-characteristic complementarities between acquirers and targets. In other words, the synergy value of an acquisition would be much higher if the productivity of acquirer and target are alike. Thus, I hypothesize that EMFs' productivity is positively associated with the market reactions to their cross-border acquisitions of DMFs.

EMFs usually carry the burden of liability of emergingness (Peng, Wang and Jiang, 2008; Madhok and Keyhani, 2012), and they have limited experience in reallocating strategic resources across national boundaries. Further, suffering from institutional void environments (Khanna and Palepu, 1997, 2000), EMFs seldom have sufficient financial capital to compete in the global market for corporate control. Thus, for productive EMFs, their competitive advantages may not be fully appreciated by foreign investors. It is crucial for EMFs to strengthen the value of their productivity through obtaining legitimacy in global market of corporate control. Accordingly, I examine two methods to enhance the signaling effects of EMFs' superior productivity in cross-border acquisitions: one is cross-listing on advanced stock exchange market and the other is accumulating cross-border acquisition experiences across heterogeneous institutional environments of developed markets.

Cross-listing refers to the situation in which a firm lists its stock on more than one stock exchange (Karolyi, 2006; Peng & Blevins, 2012). For cross-listed Chinese firms, the popular destinations are Hong Kong, U.S, Canada and U.K. Diversifying the listed markets provides EMFs with a cost advantage in raising financial capital and offsetting the domestic financial

constraints. The more affordable capital offers productive acquirers broader opportunities to look for more suitable target firms and reduce the constraints imposed by the institutional void environments at home. Through cross-listing, EMFs establish credibility by complying with foreign securities laws and committing to higher-level and more stringent regulations (Reese & Weisbach, 2002; Silva & Chavez, 2008). Cross-listing imposes a higher standard for acquirers' corporate governance (Vaaler & Zhang, 2011) and quality of information disclosure (Herrmann, Kang and Yoo, 2015). The listing process potentially increases EMFs' capability to learn from the target firms. Cross-listed acquirers gain the capability to operate and compete in more market-oriented institutions that are similar to those of host countries. In the process of cross-listing, EMFs successfully strengthen the signal value of their productivity.

Given the stringent regulatory environment of established stock exchange markets, cross-listing may not be suitable for all cross-border acquirers from emerging market. Thus, an alternative method to increase the value of productivity in cross-border acquisitions could be to accumulate cross-border acquisition experience in heterogeneous institutional environments. The breadth of their relevant institutional experience helps acquirers more effectively capture the transferrable best practices of the target and better customize them across different institutional environments; over time, acquirers might develop a more generalizable routine to better integrate target firms.

The overall theoretical graphic model is depicted in Figure 1.

Insert Figure 1 here

In this paper, I aim to make a number of contributions. First, this study advances our understanding of applying the signaling framework to cross-border acquisitions. Compared to previous research, this study explains the situation where buyers' signals are necessary and can

positively affect the market reactions to the transactions. Considering how institutional characteristics increases information asymmetry and distorts investors' perceptions, this study also responds to calls for research on incorporating sociological factors into the asymmetric information literature (Akerlof, 2002).

Second, examining how productivity influences firms' performance in acquisitive growth and global expansion, the study reveals how firms' productivity influences the value of the "changing productive opportunity" (Penrose, 1959) resulting from cross-border acquisitions. Also, focusing on acquirers from emerging markets, this study deepens theoretical insight into how EMFs create value in cross-border acquisitions of DMFs. I found that EMFs with higher productivity perform better in acquiring DMFs, indicating that EMFs' productivity is a signal valued by investors. The traditional internalization literature shows that firms could leverage and exploit their advantageous productivity in foreign institutional environments. In the case of EMFs' acquisitions of developed market targets, acquirers' productivity advantage helps them to become credible bidders in the global market for corporate control.

Third, I contribute to the cross-listing literature, in particular, to studies on the role of cross-listing in EMFs' global expansion process. The understanding of cross-listing is very limited (Karolyi, 2006) and we have only preliminary knowledge on cross-listing's role in firms' growth (Peng and Su, 2013). I found that cross-listed EMFs enjoy greater benefits from the positive effects of productivity on the performance of cross-border acquisitions. The finding hints at the strategic function of cross-listing in EMFs' internationalization process, such as accessing the global market, increasing corporate governance standards and receiving preferred evaluations from foreign investors.

Fourth, I present a new angle to explain value creation in cross-border acquisitions, in particular South-North acquisitions. I found that in the process of operating across heterogeneous institutional environments, EMFs accumulate the capability of capturing transferable and localizable business practice from target firms and optimize their global growth trajectory.

This study also expands our understanding of using the 'pull' and 'push' factors to explain the FDI flow (Anand & Kogut, 1997; Dunning, 2008). Previous studies identify political goals as the unique 'push' factors for EMFs (Cheng & Stough, 2007, p.15). However, it is unclear whether excess production capacity can serve as a push factor. This study shows that for certain EMFs, productivity is an important push factor and increases investor response to the cross-border acquisitions of DMFs.

My sample consists of Chinese firms acquiring targets from developed markets. Chinese firms comprise an appropriate empirical setting for two reasons: one is that Chinese outward FDI into developed markets is noteworthy. China has the fastest growing outward FDI among emerging economies in recent decades (UNCTAD, 2014). Second, according to McKinsey's Global Growth Report (2015), the productivity of Chinese firms is the highest among Emerging Economies in the last decade. Thus it is an ideal laboratory for studying how productivity affects EMFs' cross-border acquisition. A dataset of 466 Chinese Firms' cross-border acquisitions in the time period of 2000-2010 supported my hypotheses.

2. THEORY AND HYPOTHESIS DEVELOPMENT

Acquirer Productivity as a Signal of Value Creation Potential

Information asymmetry is a characteristic of all acquisitions. In the EMF's cross-border acquisitions of DMFs, investors rarely have sufficient information to accurately discern the potential value of the deal. One reason for the aforementioned mixed findings on the market reactions to EMFs' cross-border acquisitions might be that investors are suspicious about the deal, due to their lack of information or signal on the potential value created in the deal.

Signaling theory plays a key role in solving the information asymmetry issue and reducing the uncertainty of the deal (e.g.. Reuer, Tong, and Wu, 2012; Balakrishnan & Koza, 1993). As much as investors attempt to thoroughly evaluate the deal, the information on emerging market acquirers' capability and their potentialities to integrate DMFs targets is mostly unavailable to them. To reduce offer price discounting due to investors' suspicions (e.g., Akerlof, 1970), acquirers then need to signal their ability to improve DMFs' operational efficiency and create synergy value in the acquisitions (Kaufman, 1988; Varaiya, 1987). The reliable signal should have observable substance, be costly to develop, and indicate the potential value created in the acquisitions of target firms in developed market.

An important competitive advantage of cross-border acquirers is their superior capability to transfer and combine capabilities across different institutional environments (Gupta and Govindarajan, 2000; Capron and Pistre, 2002). Previous studies note that productive firms have higher likelihood of operating in different institutional environments. For example, Lileeva and

Traefler (2010) showed that higher productivity motivates domestic firms to export. Similarly, Karim and Mitchell (2000) showed that acquirers are more likely to have advanced capabilities than non-acquirers. However, the productivity of some emerging market acquirers may not be sufficient enough for them to operate in developed countries or integrate DMFs.

Between 1964 and 2012, the gap between productivity in emerging economies and developed economies has not significantly narrowed and the productivity of developed economies has remained about five times of that in emerging economies[1]. In the South-North cross-border acquisitions conducted by EMFs, it is unlikely for acquirers to transfer their advantageous productivity to target firms or exploit their productivity advantage in developed markets. Thus it is not surprising that investors may have concerns about EMFs' attempt to acquire DMFs. Notwithstanding, a productive EMF can be a qualified acquirer due the notable fact that the productivity dispersion in emerging market is much greater than in developed economies. For example, Syverson (2004) found that within four-digit SIC industries in the U.S. manufacturing sector, the average difference in productivity between an industry's 90th and 10th percentile (90-10 hereafter) plants is about 2:1, however, Hsieh and Klenow (2009) found that in China and India, the average 90-10 productivity ratio is over 5:1[2].

Given the great dispersion of productivity in emerging markets, the superior productivity is likely to be observable. More importantly, EMFs with superior productivity are more likely to be able to compete in developed markets and have complementary strategic capabilities

[1] Data Source: Groningen Growth and Development Centre, The ***Total Economy Database™,*** (TED) is a comprehensive database with annual data covering GDP, population, employment, hours, labor quality, capital services, labor productivity, and total factor productivity for about 123 countries in the world.

2 The measurement of productivity employed in this paper is an extension of the single reference point model (Caves, Christensen, and Diewert, 1982) to capture the degree of dispersion. This model uses a separate hypothetical firm reference point for each cross-section of observations and then chain-links the reference points together over time. It well captures the heterogeneity across productivity and reflects the cost of promoting firms productivity.

transferrable to the target companies. For cross-border acquirers from emerging markets, catching up with the most cutting-edge technology brings them first mover advantages in their domestic competition. The productive EMFs are more capable of absorbing the valuable technology and know-how from target firms. Productive EMFs can learn faster and are in advantageous positions of transferring target firms' technology in a value creating process. Compared to less productive EMFs, EMFs with superior productivity are viewed more favorably by investors. Thus the productivity, the substance of firms' capability, signals the potential value created in the acquisitions of target firms in developed markets.

Superior productivity is often costly to develop in emerging markets. EMFs are conditioned by the competing logic of an institutional void environment (Khanna and Palepu, 1997) to such a degree that it is often very difficult to comply with the rules of an established market –oriented institutional environment. In emerging markets, the state monopoly has often severely curtailed the need to improve productivity. Firms are motivated to seek rents (Luo and Junkunc, 2008) due to the pervasive administrative meddling of the government and the lack of effective institutional infrastructures such as intermediaries for strategic factors (Khanna and Palepu, 1997). The active acquirers from emerging markets may not have the advantageous capability or managerial expertise to compete in an advanced market. Their financial resources and the resulting acquisition offers might be the results of government support or of connections with politicians. Thus, the valid signal preferred by investors should be decoupled from institutional context and easy to interpret, such as EMFs' intrinsic capability of utilizing resources. Productivity is a result of firms' excess managerial capability and efficiency of operation (Penrose, 1959) and is less hinged on institutional characteristics such as regulatory environment, social norms and cognitive schema. Actually, in institutional void environment,

firms might be induced to invest in nonmarket strategy which may distract them from focusing on enhancing productivity. Oliver (1997) suggests that a firm's sustainable advantage depends on its ability to manage the institutional context of its resource decisions. Though in recent years, emerging markets such as China have begun to emphasize the importance of developing technology, the resources provided by government through non-competing channels is still substantial. Firms choosing to increase their productivity in an institutionally void environment may bear an extra cost to pursue above-normal capabilities. Spence's seminal work (1973) suggests that bearing extra costs to enhance skills actually signals superior productivity. Thus for investors, the productivity of EMFs is a prominent signal of their potential to compete in developed markets.

More importantly, compared to buying treasury stock and providing dividends to shareholders, using any excess financial capital to acquire DMFs is more likely to increase such firms' value in long term. Productive EMFs are more likely to select better target companies and seize advantageous positions in domestic competition. The findings in previous studies suggest that acquiring foreign targets is an effective strategic tool to increase acquirers' productivity (Bertrand & Zitouna, 2008; Schiffbauer, Siedschlag & Ruane, 2009; Arndt & Mattes, 2010; Bertrand & Capron, 2014; Lichtenberg and Siegel, 1987). Obtaining target firms' capabilities, accessing strategic resources in foreign markets and accumulating experience across heterogeneous institutional environments boost the productivity of firms in the acquisitions. Overall, through acquiring target companies, productive EMFs optimize shareholders' investment through holding controlling rights of DMFs.

Another reason why productivity is a reliable signal of future value created in cross-border acquisitions is the institutional difference between emerging and developed markets. For

cross-border acquirers, the contextual factor such as institutional environment might exacerbate the information asymmetry problem. In particular, the institutional differences between emerging and developed markets are difficult to codify and evaluate (Khanna, 2014). Informational asymmetry caused by such differences increases investors' suspicions about the integration between acquiring firms and target firms.

In addition, Assortative Matching Theory (Guadalupe, Rappoport, Salanie & Thomas, 2013) suggests that one necessary condition for creating synergy value is the existence of within-characteristic complementarities between acquirers and targets. In other words, the synergy value of an acquisition would be much higher if the productivity of acquirer and target are alike. Given that the productivity of DMFs is on average, five times greater than that of EMFs, productive EMFs have a better chance to find matches in developed markets. Thus productive EMFs have better target pools to select from, compared to less productive ones.

In summary, due to the information asymmetry in cross-border acquisitions of DMFs, investors search for reliable signals on the basis of which to evaluate the deal. Compared to other firm characteristics such as reputation or relationship with governments, productivity is an observable indicator of their capability to compete in a market-oriented economy. Productivity signals EMFs' potential in integrating target firms. Given the vast institutional differences between emerging markets and developed markets, acquirers with transferable capabilities indicated by superior productivity are viewed more favorably by investors. Finally, productive EMFs could also select better matches and leverage their advantages to learn more from target firms. Thus I hypothesize that:

H1: The productivity of EMFs is positively associated with the market reaction to their cross-border acquisitions of DMFs.

Competing in the global market for corporate control, EMFs need to overcome institutional voids domestically, in order to obtain the necessary key strategic resources such as capital, labor and information (De Soto, 1989; Guriev, 2004). At the same time, EMFs are perceived as inexperienced players in developed markets, thus to win over outside investors (Coffee, 1999), it is crucial for them to learn how to operate in heterogeneous institutional environments. To enhance the effects of signaling EMFs' capability of re-bundling a dynamic matrix of resources, strategic priorities, and capabilities across different institutional environments, I therefore consider the moderating roles of two types of institutional bridging experiences. One is bonding with more prestigious institutional environments through cross-listing on advanced stock exchange markets; the other is accumulated acquisition experiences in developed markets.

Moderating Effect of Cross-Listing

Cross-listing refers to the situation in which a firm lists its stock on more than one stock exchange (Karolyi, 2006; Peng & Blevins, 2012). Hailing as they do from an institutional void environment, EMFs are likely to face higher costs associated with the cross-border acquisition process. Cross-listing provides EMFs access to foreign markets and signals the value of productivity to a much larger pool of investors (Leuz, 2006; Reese & Weisbach, 2002). Cross-listed EMFs become more transparent and investors have more diversified sources from which to collect information. Besides increasing the credibility of the information, cross-listing also decreases investors' search costs.

Cross-listing suggests that EMFs are willing to 'compete by the book' in developed markets. In this way, their superior productivity is more likely to function and generate returns for shareholders. EMFs have very limited experience of competing in developed markets. Listing

is the admission of a company into a stock market after meeting certain requirements set by the regulatory authority of that particular exchange. Cross-listing signals EMFs' commitment to abide by foreign securities laws. According to bonding theory, cross-listing the EMFs' shares on a foreign exchange is an effective strategy for reputational differentiation, otherwise termed reputational bonding (Siegel, 2005). Foreign firms incorporated in a jurisdiction with weak investor protection rights cross-list on US securities markets to "legally bond" themselves to higher disclosure standards and stricter enforcement. Listing on an advanced international stock exchange is especially pertinent for EMFs that are relatively inexperienced in structuring deals and capturing post transaction synergies in cross-border acquisitions (Accenture, 2008). In the process of cross-listing, EMFs raise their ability to cope with the host country socioeconomic environments (Rosenzweig and Singh, 1991; Ghoshal and Westney, 1993), increase the quality of their corporate governance practices and enhance their skills of managing relationships with foreign investors. In the process they become obligated to hold managers accountable to shareholders, ensure shareholder voting privileges, prevent self-dealing by managers, and protect creditors. The successful adaptation to rules in established markets equip EMFs with the necessary capability to maneuver through a myriad of international requirements and regulations in cross-border acquisitions as well. Thus cross-listing allows EMFs to become qualified global players through legally bonding them to the higher standards and status of prestigious stock exchange markets. In the process, the signaling effect of productivity becomes stronger.

Given the absolute gap of productivity between emerging market and developed market (McKinsey & Company, 2015), investors might have concerns about EMFs' capability to integrate target companies. The process of cross-listing increases EMFs' capability to absorb the competitive advantages of target firms and to compete in more established market-oriented

institutions. These capabilities are critical for the integration between acquiring firms and target firms that are located in two different institutional environments – e.g., in the due diligence and post-merger integration processes. For example, cross-listed EMFs that buy DMFs may have already adopted accounting standards that are similar to those of the host countries. Thus cross-listing equips emerging market acquirers with the capability of better understanding the synergy opportunities present in the acquisition.

According to Merton's (1987) investors' recognition hypothesis, which proposes that investors pay a premium for familiar assets, the cross-listed EMFs are more likely to receive positive market reactions than their counterparts. Investors are willing to pay more to buy an advanced market listed stock (Reese & Weisbach, 2002; Siegel, 2005). For cross-border acquirers from emerging markets, bonding with more prestigious stock exchanges and becoming familiar assets to foreign investors through cross-listing offer the opportunity to gain credibility and increase social status. Benjamin & Podolny (1999) showed that social status increases the firm's intrinsic value. Thus the value of acquirers' superior productivity is influenced by their social status as perceived by foreign investors. Therefore, cross-listed acquirers can extract greater benefit from their superior productivity.

One main challenge for EMFs in cross-border acquisition is their liability of emergingness, which attributes emerging market firms' lack of competency to their country of origin. Emerging economies are commonly considered more opaque compared to developed markets. Cross-listing in general increases firms' transparency and informational quality. The information asymmetry between acquirers and investors is reduced significantly for cross-listed EMFs. Since cross-listing imposes more stringent regulations (Reese & Weisbach, 2002; Silva & Chavez, 2008) on informational disclosure, it allows EMFs to disclose their superior

productivity. To highlight this, I compare the listing requirements across the New York Stock Exchange, the Hong Kong Stock Exchange and the Mainland China Stock Market (as shown in Table 1).

Insert Table 1 here

In the China stock market, some of the information disclosure requirements are vaguely defined. For example, all three stock exchange markets require listed companies to disclose price-sensitive information; however, the China Security Regulatory Commission (CSRC) fails to provide a clear definition. Unlike the regulatory agencies of the other two stock exchange markets, CSRC doesn't require a listed company to comply with International Financial Reporting Standards (IFRS). Thus cross-listing requires EMFs to disclose more accurate information following globally accepted accounting principles and allows international analysts to thoroughly review EMFs' disclosures. Benefiting from the increased information transparency, productive acquirers can effectively signal their advantages in integrating target firms.

In summary, cross-listing allows productive EMFs to mitigate any opaqueness in home country disclosure requirements, reputational liabilities imposed by home institutional void environments and their inexperience in global competition. In particular, cross-listing strengthens the value of the signal, and allows productive EMFs to become more qualified global players. Also, cross-listed acquirers gain the capability to operate and compete in more market-oriented institutions that are similar to those of their host countries. In the process of cross-listing, EMFs become more reliable and trusted acquirers through increasing their information transparency and signaling the premium value of their productivity. Therefore, I hypothesize that:

H2: The relationship between the productivity of EMFs and the market reaction to their cross-border acquisitions of DMFs is stronger for cross-listed EMFs.

Moderating Effect of Acquirers' Institutional Experience

Despite its benefits, cross-listing might not be a suitable approach for all cross-border acquirers from emerging markets. Are there other appropriate strategies to strengthen the signaling effects of productivity in cross-border acquisitions? It is challenging to evaluate the performance of business practices across different institutional environments featured with complex customs, languages, norms and values. Thus previous experience of transferring business practice and competitive advantages to similar institutional environment may be another factor that strengthens the credibility of EMFs' productivity signal.

Delios & Henisz (2003) showed that successful operations in different institutional environments generate distinct knowledge sets about each institutional environment and increases firms' overall learning capability (see also Zeng, Shenkar, Lee & Song, 2013). The breadth of institutional experience in developed markets raises EMFs' tolerance toward different institutional rules and brings to EMFs a better understanding of market-oriented competition. Similar to cross-listed acquirers, acquirers who successfully operate in different institutional environments prove that they know how to utilize their newly acquired strategic assets in both home and other foreign institutional settings. With a more in-depth understanding of different regulatory regimes in global markets, EMFs are able to develop generally applicable routines which help them integrate target firms. For example, Mexican cement company CEMEX exemplified how experiences from similar regulatory environments enhance the value in cross-border acquisitions (Ghemawat, 2007).

Also, acquisitive EMFs frequently competing in the global market for corporate control are more transparent and visible to investors. Thus, less search cost is required for the market to recognize the value of experienced EMFs' productivity in host country. Acquisitive EMFs then

are able to convince the potential investors about their experience in integrating target firms across heterogeneous institutional environments.

The breadth of relevant institutional experience indicates firms' past experience of diversifying across multiple developed market institutional environments. It is possible that multiple institutional environments present appropriate opportunities for firms' capability sets. However, previous research shows empirical evidence of productivity heterogeneity at the institutional level (Syverson, 2011). The various sets of institutional settings across different countries support different levels of productivity and provide different trajectories of growth. When acquisitive acquirers are engaged in a number of heterogeneous institutional environments and are actively attempting to use their managerial resources in the most profitable manner, their sets of capability become adaptive as changes always occur in their external environment. Thus the breadth of relevant institutional experience suggests the acquirers' ability to adjust their productivity level and to operate at an optimal level of productivity. The acquirers with a greater breadth of institutional experience then are able to use newly available growth paths more effectively.

Haleblian, Kim and Rajagopalan (2006) argue that involvement in prior acquisitions provides managers with important feedback that enables them to develop effective routines for use in future acquisitions. However, mergers and acquisitions tend to be complex and heterogeneous (Zollo, 2009), hence experience (and learning) gained from prior acquisitions in a similar context is more relevant to outcomes (Muehlfeld, Sahib and Witteloostuijn, 2012). Research demonstrates that acquisition performance improves when the acquiring firm has prior expertise in acquisition of targets from similar environments (Finkelstein and Haleblian, 2002; Ellis, Reus, Lamont, and Ranft, 2011). Thus I consider the breadth of institutional experience in

developed markets. Greater acquisition experience of the EMFs in the target country indicates familiarity with and knowledge related to managing acquisitions in that country. Such experience is likely to enable investors better evaluate EMFs' capability, thereby complementing the benefits of superior productivity.

In summary, the breadth of emerging market acquirers' past institutional experience strengthens the signaling value of productivity in cross-border acquisitions in three ways: it helps acquirers more effectively capture transferrable business practices and better customize them across different institutional environments; secondly, it makes acquirers' routines more generalizable and facilitates the integration process of the target firms; thirdly, it equips acquirers with the ability to quickly achieve the optimal level of productivity in a new institutional environment. Thus I hypothesize that:

H3: The relationship between the productivity of EMFs and the market reaction to their cross-border acquisitions of DMFs is strengthened by EMFs' breadth of institutional experience in developed markets.

3. METHODS

Data and Sample

I compiled the sample from SDC (cross-verified with S&P Capital IQ), based on country level, firm level and deal level characteristics. The time period is from 2000-2010 and all acquirers are public-listed firms in China, covering both Shanghai and Shenzhen Stock Exchanges. The research question and theoretical tension are grounded in the fact of a significant difference between acquiring firms' home country and target firms' countries. Thus the target firms are from developed countries. Based on the definition from the World Bank and the World Factbook of the Central Intelligence Agency, the developed nations in the sample meet the following criteria: *1. per capita GDP in excess of $15,000; 2. market-oriented economies; 3. democratic nations; 4. industrial countries.* Developed countries have institutional environments differing from Emerging Markets and tend to have similar and stable institutional environments (Brint and Karabel, 1991). Following prior literature, I exclude privatizations, leveraged buyouts, spin-offs, recapitalizations, exchange offers, repurchases, acquisitions of minority interest, joint ventures, special treatment firms, government agencies and self-tender offers. I exclude deals in the financial industry (SIC codes between 6000 and 6999) due to their accounting numbers being largely dependent on statutory capital requirements (Gomper, Ishii and Metrick, 2003). I deleted deals with insufficient stock price information for calculating cumulative abnormal returns. Adjusting for missing observations, the final sample includes 466 acquisitions of developed market targets conducted by 257 Chinese firms. Among the 466 observations, 119 deals are conducted by 54 cross-listed firms, accounting for 25.5% of the sample. The distribution of deals across target countries is shown in Table 2.

Insert Table 2 here

I recognize that there might be a selection bias in focusing on firms that choose M&A as a mode of international expansion. In preliminary analysis, I conducted a two-stage Heckman test. The ratio of foreign sales of acquirers is used to predict firms' decision to engage in cross-border acquisition. I identified a sample of 3459 domestic and cross-border M&A deals by Chinese publicly-listed firms to determine if there are any selection factors in the decision to go abroad. I used a probit model to determine which firms were more likely to go abroad. The obtained inverse Mills ratio from the probit estimation was incorporated into the second stage analysis. The results indicated a non-significant inverse Mills ratio, leading me to reject the hypothesis of a non-zero correlation between the unobservable components affecting the performance of the deal. This suggests that the unobserved factors that influence firms' decisions in making cross-border deals are likely not associated with acquirers' performance in cross-border acquisitions.

I obtained national level and Exchange Market Index data from World Economic Outlook, International Monetary Fund, and CIA databases. The variables for measuring firms' productivity are collected from the annual industrial survey data[3] from the Chinese National Bureau of Statistics (NBS). All firms in China are required to participate in the NBS survey. This database includes firms' financial information from 1998 to 2009. My deal observations are from 2000-2010; to address the endogeneity concern, I use one year lag for the data on Productivity. The annual number of observations in the NBS data ranged from 162,033 to 336,768 belonging to a total of 557,554 firms. Several recent studies use this NBS data (e.g., Chang and Wu, 2014; Chang and Xu, 2008; Hsieh and Klenow, 2009).

[3] Database Access Portal: http://www.allmyinfo.com/data/zggyqysjk.asp

Dependent Variables

Performance Measurement:

I adopt the short-run abnormal equity price reaction to acquisition announcement as the reflection of acquisition performance. This variable is regarded as a reliable measure of the value consequences of acquisition (Kale, Dyer, & Singh, 2002). This measure has been extensively used in finance and strategic management studies of M&As, and used in similar studies that examine cross-border acquisition performance (e.g., Gubbi, Aulakh, Ray, Sarkar, & Chittoor, 2010; Chen & Cuervo-Cazurra, 2011). As argued by Cording, Christmann, & King (2008), the cumulative abnormal return (CAR) is unbiased and invariant across different accounting policies adopted by firms. I use a 5 day window (-2,2) to compute CARs and use the market model as:

$$AR_{it} = R_{it} - (a_i + b_i R_{mt})$$

AR_{it} is the daily abnormal return to the shareholders of acquiring firm i for day t. R_{it} is observed firm i's return and R_{mt} is the stock listed market index return. The equation within the brackets is expected share price normal return. By regressing daily share price return on a daily market portfolio (index) return, the coefficients a_i and b_i are estimated for a given firm over a 200 day interval starting 250 days prior to the acquisition announcement and ending 50 days before the announcement. Coefficients are used to calculate expected return for a short time period around acquisition announcement. Abnormal return is the difference between actual return and expected return in the event window. The cumulative abnormal return (CAR) for each security i, CAR_i, is formed by summing individual excess daily returns over a certain time window as follows:

$$CAR_{i,k,l} = \sum AR_{it,}$$

Where $CAR_{i,k,l}$ is for the period from t=k days until t=l days.

Thus, I cumulate the daily abnormal returns AR_{it} over the 5-day window to calculate the CAR(2,+2), and I use the other event windows to perform robustness checks to verify results. In

the robustness analysis, I also use post-acquisition three year average ROA of acquirers to measure the performance.

Independent Variables and Moderators

Productivity: To ensure that the comparison between any two firm-year observations are transitive, the measurement of firm's productivity is based on a single reference point (Caves, Christensen, and Diewert, 1982). The model I employed is an extension of this method, which uses a separate hypothetical firm reference point for each cross-section of observations and then chain-links the reference points together over time. This extension method provides a consistent way of summarizing both the cross-sectional distribution of firms' Total Factor productivity (TFP) and the moving trend over time. The productivity level of firm *i* in year *t* in a certain industry is in comparison with the productivity level of the hypothetical representative firm in base year 0 in that industry (*Three-digit industry level* (Caves et al., 1982; Olley and Pakes, 1996). The multilateral TFP index for firm f in year t is defined as:

$$lnTFP_{ft} = (\ln y_{ft} - \overline{lny_t}) + \sum_{s=2}^{t} (\overline{lny_s} - \overline{lny_{s-1}}) - \sum_{i=1}^{n} \frac{1}{2} (S_{ift} + \overline{S}_{it}) (\ln x_{ift} - \overline{lnx_{it}})$$

$$- \sum_{s=2}^{t} \sum_{i=1}^{n} \frac{1}{2} (\overline{S}_{is} + \overline{S}_{is-1}) (\overline{lnx_{is}} - \overline{lnx_{is-1}})$$

Where y_t is the output of firm f and x_{ift} represents the set of inputs where i= 1,2,…, n.

$\overline{lny} = \frac{1}{m} \sum_{f=1}^{m} lny_f$, $\overline{lnx_i} = \frac{1}{m} \sum_{f=1}^{m} lnx_{if}$, and $\overline{S_i} = \frac{1}{m} \sum_{f=1}^{m} lnS_{ift}$

The first term expresses the firm's output in year t as a deviation from the reference point and captures information on the cross-industry distribution in outputs. The second term considers the time trend effects which are the changes in the output reference point across all years. The measure is then the shift of the output distribution over time by chain-linking the movement in the reference point. The remaining two terms represent the same calculation for each input x_i.

Inputs are weighted by a combination of firm factor shares S_{it} and average factor shares $\overline{S}_{it}$ for each year.

I include three kinds of inputs (Chang & Wu, 2014) in my computation: labor input which is measured as firm's total number of working hours; intermediate inputs which are measured as (Cost of Sales + Operating costs)-(Wages + Depreciation cost +Expenses for purchased materials (if any)); and capital input which is measured by the sum of the book values of firms' intangible and tangible assets.

Cross-Listing: This variable receives a value of 1 if the acquiring firm is listed on both China Stock Exchanges and at least one of the following eight foreign markets: NYSE (U.S.), NASDAQ (U.S.), AMEX (U.S.), AIM (U.K.), LSE (U.K.), ASX (Australia), SGx (Singapore), and HKEx (Hong Kong). Hong Kong is the primary destination of Chinese Firms' overseas listings. I consider Hong Kong as an overseas listing because Hong Kong is a separate jurisdiction from the PRC. More importantly, the listing guidelines in the Hong Kong stock market are very different and not controlled by the Chinese government. The characterization of a Hong Kong listing as an overseas listing is consistent with prior literature (e.g., Hung, Wong and Zhang, 2012).

Breadth of Relevant Institutional Experience (BIE): The breadth of relevant institutional experience aims to capture the degree of focal firms' diverse experience across heterogeneous developed markets. For cross-border acquirers, the capability to gauge the institutional difference between home country and host country is crucial. Therefore, the breadth of relevant institutional experience is a better reflection of such capability if an institutional distance (ID) based dispersion measurement is used. Following Meyer, Estrin, Bhaumik, and Peng (2009) and Gubbi et al. (2010), I used the economic freedom index (EFI) to proxy the institutional environment. EFI is developed by the Heritage Foundation and has been widely used as a measure of ID (Gubbi et al, 2010). For each deal, I divided the value for each EFI component for

target country in that year by the respective EFI component of the China in that year. I averaged the results of all the ratios. The greater the value, the larger is the ID between the countries.

$$ID_{xyt} = EFI_{xt} / EFI_{yt}$$

To measure the degree to which the firm operated across different institutional environments, considering the dispersion of the institutional difference between focal firms' home and host countries, I use Herfindahl–Hirschman Index of ID to proxy the breadth of institutional experience. The BIE of ID is calculated by the following formula for each observation. Deals with greater transaction values would have more significant influence. Thus the experienced based measurement should be weighted by deal size.

$$BIE_{\alpha_i} = \sum_{i=1}^{n} \left(\frac{ID_i * \frac{ds_i}{\sum_{i=1}^{n} ds_i}}{\sum_{i=1}^{n} (ID_i * \frac{ds_i}{\sum_{i=1}^{n} ds_i})} \right)^2$$

In the formula, α is the firm; i is the number of cross-border acquisitions of DMNCs firm α have engaged; ds_i is the transaction value for deal i. A higher number suggests greater breadth of institutional experience.

Control Variables

I included several control variables at the deal, firm, industry, and country levels to account for auxiliary explanations and factors previously found to influence acquisition performance. All variables that vary by time are lagged by one year.

Methods of payment have an impact on the performance of acquisitions. For example, using non-cash payment may help align the incentives of the acquirer and the target (Hansen, 1987; Kohers & Ang, 2000; Datar, Frankel, & Wolfson, 2001; Ragozzino & Reuer, 2009). *Payment type* was coded 0 if the deal was cash, 1 if non-cash payment (Moeller, Schlingemann, and Stulz, 2007). The *Multiple Bidders* variable was coded 1 to indicate multiple bidders and 0 otherwise (Coff, 2003). The takeover literature suggests that nature of the bid influences

acquisition performance (Lang, Stulz, Walking, 1989) and so I constructed a dummy variable indicating the *nature of the bid*; hostile (0) or friendly (1). *Deal size* was the announcement value of the transaction (Lee and Caves, 1998).

I controlled for eight firm characteristics that could potentially affect the market reaction to the acquisition announcement as well as characteristics that may be related to the explanatory variables (Lee & Caves, 1998). *Firm size* was measured by the logarithm of the average of the past three years' total assets. *Firm leverage* was the average of the past three years' ratio of long-term debt to total assets prior to the event. Firms with free cash flow are likely to engage in wealth-destroying acquisitions because of agency issues. *Prior performance,* measured using the ratio of EBITDA to total assets at the end of the year before the focal acquisition is controlled for, since past profitability may influence future performance (Lee & Caves, 1998). In addition, according to Jensen and Meckling's (1976) study, profitable firms with free cash flows are more likely to engage in wealth-destroying acquisitions due to agency problems. *Firm age* is measured by the number of years since the firm was initially listed on the home market. According to Haleblian and Finkelstein (1999), acquirers' cross-border acquisition experience generates knowledge that affects market reaction to new acquisitions. *Prior acquisition experience* was measured by the number of cross border acquisitions during the 10 years before the focal acquisition. The experience variable was transformed as *ln* (1+n), where n is the number of prior acquisitions, in order to correct for the skewness of the experience variable. Similarities in business between the acquirer and the target have been found to be related to acquisition performance (Singh & Montgomery, 1987; Anand & Singh, 1997). I construct the variable "*Dissimilar business"* to measure whether the target is in the same business as the acquirer according to the similarity of the SIC codes of the acquirer and the target (Haleblian & Finkelstein, 1999). Specifically, if the acquirer and the target differ in their 3-digit SIC codes, "Dissimilar business" is coded as 1, and 0 otherwise. I also control for acquirers' *SOE (State-*

Owned Enterprise) status. State owned companies often have dominant political agendas that go beyond profit-maximizing business goals (Megginson & Netter, 2001). The state control paradoxically brings SOE more resources while also making them less transparent and efficient. I code SOE acquirers 1, otherwise 0. I also control for whether *target firm is in the high technology industry*, since this may lead to inflated cumulative abnormal returns (Travols, 1987; Ranft and Lord, 2000; Fresard, Hege and Phillips, 2014).

Further, I controlled for institutional distance which influences EMFs' performance in cross-border acquisitions (Gubbi, et al. 2010). *Institutional distance* measures the level of institutional development distance between the EMNC and DMNC countries (Busenitz, Gomez and Spencer, 2000). Finally, I control for *inter-temporal trends* with year dummy variables.

Estimation Method

The sample includes acquiring firms from the same country, China, and embedded in the same institutional environment. The assumption of independence across observations is thus questionable. Either the country fixed effects or random effects model may be appropriate to deal with this type of error structure. The main difference between fixed effects and random effects is whether there is correlation between the unobserved individual effects and the observed explanatory variables in the model. A fixed-effects model would be preferred if there is correlation between the unobserved effects and the regressors. A fixed-effects model can capture unobserved country-factors that impact the influence of productivity on returns in cross-border acquisitions. The results of a Hausman test rejected the null hypothesis that the difference in coefficients of random effects and fixed effects is not systematic, and thus a fixed-effects model is appropriate for the analyses. Prior to estimating the regression model, I carried out a test for potential multicollinearity and found VIF values below 2 for all variables. These models provide

conservative tests for hypotheses because they capture within-country variation over time and eliminate across-country variation.[4]

I used the following model to examine the effects of productivity on value created in international acquisitions and the moderating effects of cross-listing and breadth of institutional experience.

$$CAR_{(-2,2)mnt} = \beta_0 + \beta_1 Productivity_{mnt} + \beta_2 Cross-listed_{mt} + \beta_3 Breadth\ of\ Institutional\ Experience_{mnt} + \beta_4 Cross-listed * Productivity_{mnt} + \beta_5 Productivity * Breadth\ of\ Institutional\ Experience_{mnt} + \sum_{i=6}^{18} \beta_i\ Other\ Controls_{mnt} + Industry_{mnt} + y_t + \varepsilon_{mnt}$$

As mentioned earlier, the $CAR_{(-2,2)mnt}$ is the five-day abnormal return for the time window [-2 day, +2 day] for the acquirers. The subscripts, *m, n* and *t* stand for acquiring firm *m*, deal *n* and year *t*. As discussed above, the vector of controls included deal, firm, industry and country level controls at time *t* for firm *m* in deal *n*; $industry_{mnt}$ is used to account for target firm industry effects; y_t is used to account for temporal unobserved effects and ε_{mnt} is the error term.

[4] To address concerns of endogeneity, I incorporate instrumental variable analysis for both the effects of political connections and of cross-listing on cross-border acquisitions. Detailed analysis is presented in the Result Section.

4. RESULTS

Table 3 presents the descriptive statistics and the correlations. It shows that the average cumulative abnormal returns of Chinese Firms' cross-border acquisition of DMFs are slightly lower than 0, i.e., the mean is -0.003. The mean value for productivity is 0.229 with a standard deviation of 0.014. The mean value for cross-listing is 0.256 which shows that about 26% of the deals are announced by cross-listed firms. In terms of correlations, Table 3 shows that the productivity, breadth of institutional experience, cross-listing, acquisition experience are all positive and significantly associated with the cumulative abnormal returns ($p<0.05$). These correlations are consistent with what the hypotheses suggest.

Insert Table 3 here

Table 4 reports the empirical results of using country level fixed effects model to test the relationship between productivity and acquirer's return. Model 1 is the base model with all the control variables. Model 2 examines the effect of productivity. Model 3 and Model 4 examine the moderating effects of cross-listing and breadth of institutional experience respectively. Model 5 is the full model including all the moderators and the interaction effects. Overall, the results are quite consistent across various model specifications with different sets of control variables.

Insert Table 4 here

Model 1 is the benchmark model, and shows that acquirers' cross-listing, acquisition experience and SOE status are positively significant. In Model 2, I found that productivity positively influences acquirers' returns in cross-border acquisitions ($p<0.001$). The standardized coefficient is 0.029, suggesting that the cross-border acquisition performance of EMFs is 2.9%

higher for productive EMFs. Given that on average the acquirer's return is close to zero (Jensen & Ruback, 1986), a 2.9% difference in short time market reaction CAR is economically significant. In 2010, the average market capitalization of publicly-listed Chinese firms is 203 million U.S. dollars[5] (*In 2010, the average market capitalization of S&P 500 is 42.5 billion U.S. dollars and the average market capitalization of NYSE listed firms is 8.9 billion U.S. dollars*). Thus on average, for productive EMFs, value created by acquiring DMFs is 5.89 million U.S. dollars more than less productive EMFs. It suggests that the effect of a 1% increases in productivity means an extra sixty thousand U.S. dollars of market capitalization. Model 3 reveals that this effect of productivity is stronger for cross-listed acquirers. For each unit increase in productivity, on average, the effect of productivity on cross-listed acquisition performance is strengthened by 3.5% to 4.0% (0.005+0.035). Model 4 reveals the moderating effect of acquirers' breadth of relevant institutional experience. For each unit increase in the breadth of institutional experience, on average, the effect of productivity on cross-border acquisition performance is strengthened by 13.7%. In Model 5, results show that after including all the moderators and interaction terms, the hypotheses are still supported.

In order to illustrate the effects predicted by Hypotheses 2 & 3, I plotted the moderating effects of cross-listing and the breadth of institutional experience in Figure 2. Figure 2 Panel A presents the interaction effect between cross-listing and productivity. Cross-listed acquirers mostly receive a better reaction from the market and the relationship between productivity and cross-border acquisition is steeper for cross-listed acquirers. Similarly, in Figure 2 Panel B, the relationship between productivity and cross-border acquisition performance is stronger for firms with greater breadth of institutional experience.

Insert Figure 2 here

5 Source: Bloomberg & Hexun Finance

Robustness Checks and Supplementary Analysis

Endogeneity and Instrumental Variables: I recognize that there is a potential endogeneity issue for productivity. There could be an unobserved variable simultaneously influencing both productivity and cross-border acquisition performance. To address such matters, I conduct instrumental variable analysis for cross-border acquisitions performance. I use the China Healthy Province Index to instrument productivity. Firms located in the province with higher Healthy Province Index are more likely to get access to healthier employees who have higher productivity. However, acquirers from provinces with a higher healthy index may not necessarily generate more in cross-border acquisitions of DMFs. I collect data from Economist Intelligence Unit[6]'s report of China Healthy Province Index (CHPI). The CHPI pulls together a substantial dataset to provide a detailed healthcare profile of each of China's 31 provinces. The index is based on 25 quantitative indicators, ranking provinces according to which provinces are best placed in terms of resources and financing to meet current and anticipated healthcare demand. The four sub-dimensions of the index are Health Status, Health awareness, Health resources and Health financing. I first run the endogeneity test of endogenous regressor: productivity (using '*endogtest'* command in stata). The test rejected the null hypothesis that the independent variable can be treated as exogenous. Thus I proceed with two stage analysis. Table 5 shows the results from the first and second stages of the instrumental variables target country fixed effect regression (I employ the *xtivreg2* package which allows taking account fixed effects while conducting instrumental variable analysis). I report results for post-estimation tests to examine the quality of the instrumental variable. The under-identification test, which is indicated by the Kleibergen-Paap rk statistic, confirms that the model is identified. The weak identification test estimates whether the instrument is relevant and strong enough. The F-statistic nears the critical

6 The Economist Intelligence Unit (The EIU) is the world's leading resource for economic and business research, forecasting and analysis. It provides accurate and impartial intelligence for companies, government agencies, financial institutions and academic organizations around the globe, inspiring business leaders to act with confidence since 1946.

value for 25% maximal IV size (5.551 versus 5.53), suggesting that the instrument is relevant. Also, the Hansen's J statistic shows that the null hypothesis that the instrument is exogenous cannot be rejected. Overall, both pre-estimation and post estimation tests reveal that the instrumental variable "firm headquarters' CHPI index" satisfies the conditions of relevance and exogeneity. Overall, I found that productivity has a significant and positive influence on firms' returns in cross-border acquisitions. This suggests that the exogenous component of the productivity positively influences firms' returns.

Insert Table 5 here

I also conducted several robustness tests to further verify the findings. Specifically, I examined the results using alternative specifications of the dependent and independent variables.

First is using alternative dependent variables for performance. Considering the efficiency of information dissemination in the stock market announcements (Miller, Li, Eden & Hitt, 2008), I further conduct robustness checks by employing 11 (+/-5 around the announcing day) day-time window to calculate CAR (-5,5) and 3 (+/-1 around the announcing day) day-time window to calculate CAR (-1,1). Table 6 & Table 7 show that both CAR (-5,5) and CAR (-1,1) models are significant. The 3 day-time window CAR (-1,1) (Table 6) presents the strongest set of results which indicate that the market responses to the signal mostly around the day of the announcement. The 11 day-time window model shows that market gradually prices in the signaling effect.

Insert Table 6 here

Insert Table 7 here

It is important to consider the effects of productivity on long term post-acquisition performance. Thus I conducted alternative measurements for long-term performance which are the changes in ROA and changes in Tobin's q. Table 8 & table 9 show that for both changes in

ROA value and changes in Tobin's q, the productivity is significant. Overall, the influences of productivity on post-acquisition ROA are stronger than on post-acquisition Tobin's q. It indicates that productivity has a greater impact on the post-acquisition firm performance, compared to its impact on the market value.

Insert Table 8 here

Insert Table 9 here

Second, I tested the moderating hypotheses with sets of alternative specifications of moderators. For cross-listing, I use a continuous measurement to reflect how firms' cross-listed markets are different from their home institutions. The Breadth of cross-listing (BCL) reflects the dispersion of developing stages across different financial markets that acquirers listed. Following previous literature, I use stock market capitalization[7]/GDP ratio (Levine, 1997) as the indicator of financial market development (FMD). For example, in 2009, the stock market capitalization of public corporations in the United States totaled over $ 15 trillion, 113% of the GDP in that year. Thus the FMD would be 1.13. In contrast, China's market capitalization that year is slightly higher than $3.5 trillion which accounts for 71% of its GDP. China's 2009 FMD therefore is 0.71. In 2002, China's market capitalization is 0.45 trillion which is 34% of its GDP. This shows that China's stock market has experienced rapid growth; however, compared to the U.S market, it is still underdeveloped. I use Herfindahl–Hirschman Index of FMD indicators to proxy the breadth of cross-listing. The BCL of FMD is calculated by the following formula for each observation.

7 Market capitalization (also known as market value) is the share price times the number of shares outstanding. Listed domestic companies are domestically incorporated companies listed on the country's stock exchanges at the end of the year. Listed companies do not include investment companies, mutual funds, or other collective investment vehicles.

$$BCL_{\alpha_i} = \sum_{i=1}^{n} \left(\frac{FMD_i}{\sum_{i=1}^{n} FMD_i} \right)^2$$

In the formula, α is the firm; i is the number of market firm α listed. A higher number suggests greater cross-listing dispersion, i.e., the inclusion of a more dispersed set of financial markets. I found that BCL is positively and significantly moderating the relationship between productivity and performance in cross-border acquisitions. Overall, regardless of subsample or specifications, the results were qualitatively the same.

Thirdly, I examined the relationship between cross-listing and institutional experience. Though they are different methods of strengthening the signaling effect of productivity, firms could employ both of them to amplify the positive effect. The result of interaction effect between these two is positive. It suggests a complementary effect for these two paths. Actually, for cross-listed acquirers, a greater number of cross-border acquisitions could result in compounding effect on the signaling role of their superior productivity.

Fourth, I also conduct a sub-group analysis for non-SOE (table 10) and SOE (table 11) firms. Previous literature shows that SOEs and private firms are different in terms of their strategic goals such as whether pursuing production efficiency and profit maximization (Chaganti & Damanpour, 1991, Dewenter & Malatesta, 2001, Megginson & Netter, 2001). In an emerging economy, the government often plays a central role in allocating strategic resources and the SOEs are mostly in favor of winning important assets to conduct cross-border acquisitions, especially after the 'Go Global' policy initiated by the government to stimulate Chinese SOEs to invest abroad (Deng, 2009). Given the political agenda carried by SOEs, it is causing a stronger signaling effect to have superior productivity. By the same token, SOEs are in a favorable position to receive low cost financial capital. Their cross-listing shows their willingness of disclosing information and abiding to more stringent regulatory regimes. Thus in table 11 the result is overall stronger than in table 10.

Insert Table 10 here

Insert Table 11 here

Also, I conducted industrial level sub-group analysis using the Fama–French 12-industry categorization[8]. Tables 12 to 16 present the results for industries with sufficient observations. Overall, the results showed that Business & electronic equipment industry and business service industries are significant. For Energy and oil industry, the results are mostly insignificant. Overall, it indicates that the industry concentration and government subsidiary might be interesting contingencies on the productivity – cross-border acquisitions performance relationship.

Insert Table 12 here

Insert Table 13 here

Insert Table 14 here

Insert Table 15 here

Insert Table 16 here

In the sub –group analysis of target countries with sufficient observations, the results showed that productivity has a strong significant signaling effect in acquisitions of Australian and U.S. firms. Table 17 to Table 21 present the results for target countries with sufficient observations.

Insert Table 17 here

Insert Table 18 here

Insert Table 19 here

Insert Table 20 here

Insert Table 21 here

[8] http://faculty-gsb.stanford.edu/deHaan/documents/industries_ff12.txt

5. DISCUSSION

Traditional theories of FDI suggest that potential advantages in input costs, market access and advanced technology comprise the motivating rationale for MNCs to expand globally. However, the majority of Emerging Market MNCs are in disadvantaged positions relative to their counterparts in developed markets, in terms of access to strategic resources, technological capability and experience in international competition. For example, in semiconductor wafer factories, Chinese technologies are 'at least two generations behind those of the United States, Japan, and South Korea' (*BusinessWeek*, 2009: 42). Apparently, the recent wave of South-North cross border acquisitions is not driven by the exploitation of competitive advantage. Therefore, EMFs' cross-border acquisitions of DMFs suggest a new theoretical puzzle for both firm growth theory and internationalization literatures. The steady growth trend of cross-border acquisitions of DMFs by EMFs reflects that, rather than harvesting their competitive advantages like their pioneering DMFs, the EMFs are using cross-border acquisitions of DMFs as important strategic vehicles to accelerate capability acquisition. Deals like Lenovo's 2004 purchase of IBM's personal computer business and CNOOCS' attempt to acquire Unocal are examples. Not surprisingly, without accumulated experience in international competition and suffering from the absence of necessary supportive institutional infrastructures, the adventure of EMFs in global market of corporate control on average, despite their acquisitions of valuable resources, often receives negative market reactions and destroys shareholders' value. Yet, given the importance of South-North acquisitions for the growth of EMFs, such type of global corporate strategy will

still play a significant role for EMFs' competition in the foreseeable future. Accordingly, it is crucial for managers, policy makers and scholars to understand how EMFs compete in the global market for corporate control, in particular, how EMFs reduce investors' suspicions about their global expansion.

Starting with reviewing the mixed findings in EMFs' cross-border acquisitions of DMFs and considering the motivations of such acquisitions, I noted that investors' suspicions may be founded on the productivity differences between EMFs and DMFs and the institutional difference between emerging and developed markets.

Most of Chinese MNCs can only compete on low cost and are still struggling to provide new and better products. Short on innovation and lacking their own distinctive products, many Chinese firms expand by taking orders from overseas markets and selling them under foreign brand names. This situation-best described as "production without products" (Coase & Wang, 2013, Page 189). Thus it is difficult for mediocre productivity EMFs to adapt to and compete in developed markets. Their generically low productivity disqualifies them from being competitive bidders in the acquisitions of DMFs. On the other hand, a key feature of emerging markets is the absence of an established institutional infrastructure that firms take for granted in developed markets (Khanna and Palepu, 2006). In this institutionally void environment, resource allocation is inconsistent with firms' competitive advantages within and across industries. Several emerging market industries (e.g. telecom, retail, insurance) historically have experienced minimal competition and enjoyed national protectionism in international trade, particularly from foreign players. Thus it is not surprising that the outside investors are uncertain about EMFs' capability to compete in developed markets. For EMFs engaged in cross-border acquisitions, it is then crucial to signal their qualifications in global competition.

My findings support the hypothesized positive influence of productivity on market reactions to EMFs' cross-border acquisitions of DMFs. Strikingly, I noticed that in emerging markets, the contribution of Total Factor Productivity (TFP) to the national economy growth has increased from 11 percent before 1978 to more than 40 percent afterwards in the early 2000s (Perkins & Rawski 2008). This suggests that productive EMFs play an increasingly important role in shaping China's economy and growth. The finding suggests that the benefits of signaling superior productivity are likely to depend on the informational environment of signals, such as institutional differences between a target country and an acquirer country. The contingency perspective I develop suggests that both cross-listing and the breadth of institutional experience enhance signaling effects. Besides providing more affordable financial capital, cross-listing increases EMFs' credibility and makes them more transparent. Also, cross-listing offsets EMFs' liability of emergingness and makes them stronger competitors in global markets; equips EMFs with the necessary capability to understand the value and advantages of potential target firms and makes them better learners in the acquisitions. One other way to reap more value from cross-border acquisitions of DMFs is to accumulate past cross-border acquisition experience across relevant institutional environments.

Several contributions emerge from this study. First, this study advances our understanding of applying the signaling framework to cross-border acquisitions. Signaling theory plays an important role in understanding the asymmetric information in various markets (e.g., Spense, 1974; Riley, 2001; Stiglitz, 2002). When it comes to applying signaling theory to the acquisitions literature, previous studies largely focuses on explaining how sellers signal quality to maximize their value share in the transaction. In contrast, this study explains situations where acquirers' signals are necessary and can positively affect the investors' responses to the

transactions. Considering how institutional characteristics increase information asymmetry and distort investors' perceptions, this study also responds to calls for research on incorporating sociological factors into the asymmetric information literature (Akerlof, 2002).

Second, with respect to studies on the relationship between cross-border acquisition and productivity, the main interest has concentrated on how cross-border acquisition influences acquirers' productivity (Lichterberg & Siegel, 1987; Bertrand & Zitouna, 2008; Arndt & Mattes, 2010; Bertrand & Capron, 2014) rather than on the effect of productivity on acquirers' performance in the acquisitions. By examining the relationship between productivity and market reactions to EMFs' acquisitions of DMFs, this study complements prior M&A research in management and finance by addressing the important yet neglected question about how productivity influences value creation in acquisitions. In doing so, this study synthesizes the growth theory of the firm and the internalization literature. It extends our understanding on how firms' intrinsic capability influence the value of 'changing external conditions' (Penrose, 1995).

Third, by examining the moderating role of cross-listing, I address an important question of how EMFs overcome financial constraints and the liability of emergingness in cross-border acquisitions. Given the ongoing interest in the puzzle of why EMFs fail to create value for shareholders even when they acquire valuable strategic assets, this study illustrates one strategic means for EMFs to better leverage resources possessed by target firms.

Fourth, through examining the contingency of relevant institutional experience, the results showed that alternatively, EMFs could accumulate knowledge through operating across heterogeneous institutional environments to strengthen the signaling effects of productivity. It is worth noticing that essentially both types of strategies reflect EMFs' efforts of overcoming home market institutional void environments. Therefore in future studies, it would be useful to assess

how the effectiveness of these two types of strategies changes when EMFs' home institutional environment improves over time.

Fifth, this research contributes to the literature on internationalization process. It is interesting to reveal how EMFs utilize their relative productivity to generate value for shareholders in the acquisitions of DMFs. The finding implies that the value of firms' productivity in global expansion process hinges on both the characteristics of their home institutional environments and their responses to the institutional differences between home and host markets.

Also, this study contributes to the FDI literature, in particular to our understanding of using 'pull' and 'push' factors to explain the motivations of FDI. For example, Anand & Kogut (1997) found that the rival technological capabilities are 'push' factors while market opportunities and technology sourcing are 'pull' factors. The findings in supplementary analysis confirm that industrial rivalry is a strong push factor. For example, it shows that in highly competitive industries such as business service and electronic equipment production, the effects of productivity are stronger. However, it would be interesting to examine how industry concentration influences value created in cross-border acquisitions in future studies. 'Pull' factors are concerned with the attractions of a particular location. Previous studies centered on studying pull factors such as indigenous resources, capability and market (RCM). Focusing on Chinese firms' FDI, Cheng categorized resource-acquiring, market expanding and efficiency-improving as three main pull factors. Overall, these pull factors fit the classic international expansion model (Dunning, 1980, 2008). On the other hand, the conditions inside China present new features for push factors. Besides market conditions such as domestic competition and demand for natural resources, push factors for Chinese companies include the political goals of

Chinese government support and abundant foreign exchange (Cheng & Stough, 2007, p.15). However, in emerging economies, it is unknown whether excess production capacity serves as a push factor. This study shows that production capacity of EMFs could be an effective push factor, consistent with previous studies such as Anand & Kogut (1997).

Last but not least, this study helps us understand how MNCs strategize their growth models across different institutions. Nobel laureate Krugman concludes that Asian growth driven by investment in input and capital is a myth (1994) but his prediction of the failure of Asian economy may have failed. Conventional wisdom recommends Western Economy's Growth Mode which relies on productivity and efficiency. However, Jorgenson & Vu (2013) noted recently that the balance of power in the G20 has shifted from the leading industrialized economies of the G7 to the emerging economies, especially China and India. The rise of the Asian model of economic growth will change the balance of the theory of economic growth from productivity and innovation to investment in human and nonhuman capital. The findings in this study show that EMFs with higher productivity receive better market reactions when they acquire DMFs. They indicate that besides complying with institutional norms, MNCs need to localize their growth mode to host countries. Productive EMFs are easier to fit in developed market economic systems compare to EMFs relying on extensive growth. By the same token, for DMFs entering emerging economies, they might receive a better market reaction by increasing their investment in non-market factors.

Limitations

Despite these contributions, my study is subject to some boundary conditions. First, although the mechanisms I described above are prevalent across emerging economies (Hoskisson, Wright, Filatotchev, & Peng, 2013), there may still be some sample peculiarity issues. Each

institution has its unique policy regime change and idiosyncrasies are pertinent across emerging economies. Within emerging economies, the differences are largely centered on the relationship between productivity and policy regime changes. For example, India's economic reforms were initiated in 1991 and the accelerated GDP growth had not appeared until 2003. Also the trajectory of productivity growth across different industries varies across countries. More cross-country comparative studies could be done to further justify the influence of productivity and the moderating roles of cross-listing and breadth of institutional experience.

Second, the cross-listing status influences the integration process significantly, thus a qualitative approach could be valuable for further explaining the value creation mechanism for cross-listed acquirers.

Future Research

Akerlof argues (2002) that asymmetric information ultimately leads us to behavioral economics. Information asymmetry at an institutional level greatly complicates the problem of computability (Simon, 1955). For both acquirers and investors, more effective strategic tools are necessary to overcome the inevitability of bounded rationality. For instance, anchoring at previous deals and performance of pioneering acquirers might be a starting point.

It is also important to consider the impact of productivity on EMFs' likelihood of acquiring DMFs. High productivity creates unused managerial resources which become available for further growth and influence the direction and scope of a firm's activities. The future growth moves in directions that utilize the excess capacity of competencies. In the case of EMFs, entering developed markets through acquiring productive DMFs is the one of the most efficient ways to utilize their unused managerial resources in their home market. Productivity reflects a firm's capability to utilize resources and plays an important role in firms' internationalization

processes. Previous studies note that productive firms have a higher likelihood of operating in different institutional environments. For example, Lileeva and Traefler (2010) showed that higher domestic productivity motivates firms to export. Similarly, Karim and Mitchell (2000) showed that acquirers are more likely to have advanced capabilities than non-acquirers. In fact, the well-established 'Penrose Effect' (Penrose, 1959) implies that for *less* productive firms, the limitation of managerial resources places a constraint on their acquisitive growth (Penrose, 1959). The acquisitive growth then is more appropriate for firms with excess capacity. This seemingly conflicting reasoning reveals an important yet somewhat neglected question: how does a firm's productivity influence their performance in acquisitions? In particular, how does the market respond to cross-border acquisitions conducted by a firm with *low productivity*? On one hand, cross-border acquisition answers firms' needs to increase productivity; on the other hand, the increased 'productive opportunity' (Penrose 1959) resulting from acquisitions may not be fully utilized by those acquirers with strongest incentives. Thus in future studies, it would be interesting to examine how productivity influences the likelihood of EMFs' acquisition of DMFs.

Last but not least, productivity enhances EMFs' capability to recognize synergy opportunities with target companies and helps them select more suitable target companies. It is important to examine how productivity influences the duration (time to completion) of cross-border acquisitions of DMFs.

Conclusion

This study utilizes signaling theory to conceptualize the theoretical linkage between superior productivity and higher market evaluation in EMFs' cross-border acquisitions of DMFs. By examining how productive EMFs enhance their returns in cross-border acquisitions through cross-listing and the breadth of relevant institutional experience, I have sought to deepen

theoretical insights into how the liabilities of emergingness and lack of strategic resources are addressed by EMFs in their global expansion process, in particular, in South-North acquisitions.

In a broader sense, the study indicates new theoretical linkages between productivity and acquisition performance. In terms of practical implications, it shows that for cross-border acquirers, it is important to adapt to the preferred growth mode of target countries, especially when that growth mode is different from that of the home country. By revealing the influence of productive EMFs' cross-listing and institutional experience on their performance in cross-border acquisitions, I hope to initiate a conversation about how emerging market acquirers signal their quality to influence market reactions to their moves.

Table 1. Three Major Listing Destinations

Listing Requirements Comparison			
EXCHANGE	NYSE (USA)	HKEx (Hong Kong)	SSE(China)
Function	Market-Oriented	Market-Oriented	Regulation Oriented
Regulatory Agency	U.S. Securities and Exchange Commission (SEC)	Securities & Futures Commission (SFC) of Hong Kong	Chinese Securities Regulatory Commission (CSRC); & MOC SASAC NDRC *(SAFE)*
Financial Information Requirement	Hong Kong FRS or IFRS	US GAAP or IFRS	PRC GAAP
Min. Number of Shareholders	5000 for foreign issuers	300	1000
Min. Market Cap of publicly held shares	US 100M	HK50m	50MRMB
Profit	pre-tax: greater 100M US earnings over last 3 years	after tax, greater than 50M HK for the last 3 years	Profitable for 3 consecutive years and greater than 30M RMB
Min shares traded on market	1100 thousand	greater than 25%	greater than 10%
Annual financial report	yes in 3 months	yes in 3 months	yes in 4 months
half year report	yes in 2 months	yes in 2 months	yes in 3 months
quarterly report	no	no	yes
Price sensitive information disclosure	yes	yes	*Not clearly defined, the overall definition of "any information could lead to price change" is very vague.*
Related transactions	yes	yes	
Disclosure of significant management shareholdings	yes	yes	
From: *http://www.sec.gov/rules/sro/nyse.shtml* *https://www.hkex.com.hk/eng/rulesreg/listrules/rulesandguidelines.htm* *http://english.sse.com.cn/*			

Table 2. Sample Distribution

Country	Number of Deals	Number of Cross-listed Deals	Percentage of Cross-listed Deals
Australia	89	31	34.83%
Austria	2	0	0.00%
Belgium	4	3	75.00%
Canada	61	14	22.95%
Denmark	3	0	0.00%
Finland	1	0	0.00%
France	17	11	64.71%
Germany	31	7	22.58%
Greece	1	0	0.00%
Israel	1	0	0.00%
Italy	7	3	42.86%
Japan	19	4	21.05%
Netherlands	10	2	20.00%
New Zealand	2	0	0.00%
Norway	4	0	0.00%
Portugal	4	0	0.00%
Singapore	49	12	24.49%
South Korea	7	0	0.00%
Spain	4	0	0.00%
Sweden	3	1	33.33%
Switzerland	2	1	50.00%
United Kingdom	21	4	19.05%
United States	124	26	20.97%
Total	466	119	25.54%

Table 3. Descriptive Statistics and Correlation Matrix

Variables	Means	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 CAR5	-0.003	0.001																
2 Productivity	0.229	0.014	0.414															
3 Cross-Listing(CL)[b]	0.256	0.021	0.367	-0.151														
4 Breadth of Institutional Experience	0.149	0.003	0.428	0.162	0.266													
5 Deal Size[c]	1.613	0.039	0.014	-0.002	0.043	-0.008												
6 Payment Type[b]	0.541	0.037	0.032	0.016	0.056	-0.028	0.038											
7 Nature of Bid[b]	0.328	0.022	-0.019	-0.009	0.111	0.082	0.053	0.324										
8 Multiple Bidder[b]	0.761	0.019	0.082	0.018	0.004	0.012	-0.075	0.049	-0.069									
9 Acquirer Firm Size[c]	3.652	0.057	-0.038	0.031	-0.008	-0.022	0.052	0.327	0.063	0.116								
10 Acquirer Leverage	1.568	0.077	-0.075	-0.065	-0.063	-0.024	-0.098	-0.423	-0.154	-0.039	-0.128							
11 Acquirer firm Age	9.421	0.281	-0.018	-0.001	0.051	0.017	0.117	-0.098	-0.027	0.005	-0.042	0.101						
12 Acquisition Experience[c]	1.238	0.031	0.024	0.036	0.019	-0.006	0.031	0.258	0.109	0.089	0.242	-0.085	-0.129					
13 Acquirer's Past Performance[c]	0.151	0.004	0.034	-0.042	0.051	0.007	0.043	0.049	0.009	-0.102	-0.017	-0.015	0.017	-0.041				
14 Dissimilar Business[b]	0.543	0.023	-0.036	-0.029	-0.041	-0.034	0.012	0.009	-0.134	0.058	0.097	0.096	-0.011	0.051	-0.033			
15 Institutional distance	1.354	0.012	-0.039	0.001	-0.078	0.021	-0.094	-0.198	-0.062	0.002	-0.136	0.075	0.047	-0.216	-0.051	-0.075		
16 SOE[b]	0.661	0.022	0.043	-0.001	0.002	-0.012	-0.152	0.281	0.118	0.099	0.318	-0.173	-0.112	0.379	-0.015	0.041	-0.189	
17 High Technology Industry[b]	0.290	0.021	-0.053	-0.067	-0.072	-0.088	0.018	0.069	-0.084	0.005	0.079	0.004	0.003	-0.011	0.051	0.083	-0.031	-0.056

a In this correlation table, n=466
b Categorical Variable
c logarithm
Correlations significant at 0.05 level are underscored.

Table 4. Fixed-Effects Models Predicting Chinese Firms' CBA Returns, 2000-2010

	Probit Cross-Border		Model1 CAR5	Model2 CAR5	Model3 CAR5	Model4 CAR5	Model5 CAR5
Productivity		H1		0.029 ***	0.025 ***	0.013 *	0.011 *
(Multilateral TFP Index)				(0.003)	(0.003)	(0.005)	(0.005)
Productivity* Cross-Listing		H2			0.035 ***		0.033 ***
					(0.008)		(0.007)
Productivity* Institutional Experience Breadth		H3				0.137 ***	0.118 **
						(0.043)	(0.042)
Moderators							
Cross-listing			0.086 ***	0.012 ***	0.005 **	0.012 ***	0.006 **
			(0.001)	(0.001)	(0.002)	(0.001)	(0.002)
Institutional Experience Breadth			0.082 ***	0.062 ***	0.057 ***	0.027 +	0.027 +
			(0.011)	(0.009)	(0.009)	(0.014)	(0.014)
Control Variable							
Deal Characteristics							
Deal Size	-0.032		0.000	0.000	0.000	0.000	0.000
	(0.021)		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Payment Type	0.000		0.001	0.001	0.000	0.001	0.001
	(0.000)		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Nature of Bid	0.001		-0.002	-0.003 +	-0.003 *	-0.002 +	-0.003 *
	(0.002)		(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Multiple Bidder	-0.001		0.001	0.002	0.002 +	0.002 +	0.002 *
	(0.001)		(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Firm Characteristics							
Acquirer Firm Size	0.948 ***		-0.001	-0.001	-0.001	-0.000	-0.000
	(0.039)		(0.002)	(0.001)	(0.001)	(0.002)	(0.002)
Acquirer Leverage[b]	0.149 ***		-0.001	0.000	0.000	0.000	0.000
	(0.021)		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Acquirer Firm Age	-0.012 *		0.000	0.000	0.000	0.000	0.000
	(0.005)		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Acquisition Experience	0.888 ***		0.004 ***	0.004 ***	0.004 ***	0.004 ***	0.004 ***
	(0.059)		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Acquirer's Past Performance	0.244 ***		0.005	0.004	0.002	0.004	0.002
	(0.017)		(0.006)	(0.005)	(0.005)	(0.005)	(0.005)
Acquirer is SOE	0.002		0.006 ***	0.006 ***	0.005 **	0.005 ***	0.004 *
	(0.002)		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Target in High Tech Industry			-0.001	0.001	0.001	0.001	0.001
			(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Dyad Characteristics							
Acquirer & Target in different	0.001		-0.001	-0.000	-0.000	-0.000	-0.000
industries	(0.000)		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Institutional distance			-0.003	-0.001	-0.002	-0.001	-0.002
			(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Year Dummy	Included		Included	Included	Included	Included	Included
Industry Dummy	Included		Included	Included	Included	Included	Included
Inverse Mill's Ratio			-0.000	0.000	0.000	0.001	0.001
			(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Oversea Sales	0.003 ***						
	(0.000)						
Constant	-5.2523 ***		-0.009	-0.019	-0.016	-0.013	-0.011
	(0.384)		(0.011)	(0.010)	(0.009)	(0.009)	(0.009)
Observations	3459		466	466	466	466	466
Pseudo-R-Square	0.4804 ***						
Adj. R-Square			0.2898 ***	0.3837 ***	0.4138 ***	0.3964 ***	0.4324 ***

Country=23, Standard errors in parentheses ***p<0.001, **p<0.01, *p<0.05, +p<0.1

Table 5. Fixed-Effects Instrumental Variables Predicting Chinese Firms' CBA Returns, 2000-2010

	Instrumental Variables for Productivity	
	1st Stage	2nd Stage xtivreg2
Deal Size	0.011	-0.001
	(0.025)	(0.001)
Payment Type	0.025	0.000
	(0.035)	(0.001)
Nature of Bid	0.033	-0.002 +
	(0.048)	(0.001)
Multiple Bidder	0.054	0.002
	(0.043)	(0.001)
Acquirer Firm Size	0.023 **	-0.000
	(0.008)	(0.000)
Acquirer Leverage[b]	0.006	-0.001
	(0.017)	(0.000)
Acquirer firm Age	-0.003	0.000
	(0.003)	(0.000)
Acquisition Experience	-0.032	-0.000
	(0.031)	(0.006)
Acquirer's Past Performance	-0.056	0.000
	(0.163)	(0.005)
Dissimilar Business	-0.014	-0.000
	(0.038)	(0.001)
SOE	0.062	0.004 +
	(0.057)	(0.002)
High Tech Industry	-0.012	-0.002
	(0.043)	(0.001)
Strategic Industry	0.047	0.000
	(0.046)	(0.001)
Year Dummy	Include	Include
Industry Dummy	Include	Include
Institutional distance	-0.061	-0.003
	(0.087)	(0.003)
Inverse Mill's Ratio	0.034	-0.001
	(0.069)	(0.002)
CHPI Index	0.014 ***	
	(0.000)	
Productivity		0.021 **
		(0.007)
Constant	0.014	0.011
	(0.398)	(0.009)
Observation	466	466
(Centered) R-Square	0.084 ***	-1.871 ***
Kleibergen_Paap(KP) rk LM stat (Under-identification test)		5.432 (p=0.013)
KP rk Wald F(weak Identification)		5.551
Hansen J stat (Over-identification)		0

Country=23, Standard errors in parentheses ***p<0.001, **p<0.01, *p<0.05, +p<0.1

Table 6. Fixed-Effects Models Predicting Chinese Firms' CBA Returns, 2000-2010

		Model1 CAR3	Model2 CAR3	Model3 CAR3	Model4 CAR3	Model5 CAR3
Productivity	H1		0.0324 ***	0.028 ***	0.013 *	0.012 *
(Multilateral TFP Index)			(0.003)	(0.003)	(0.006)	(0.006)
Productivity* Cross-Listing	H2			0.037 ***		0.034 ***
				(0.008)		(0.008)
Productivity* Institutional Experience Breadth	H3				0.144 ***	0.123 **
					(0.044)	(0.043)
Moderators						
Cross-listing		0.008 ***	0.011 ***	0.005 **	0.011 ***	0.005 *
		(0.001)	(0.001)	(0.002)	(0.001)	(0.002)
Institutional Experience Breadth		0.085 ***	0.063 ***	0.058 ***	0.027 +	0.027 +
		(0.011)	(0.009)	(0.009)	(0.014)	(0.014)
Control Variable						
Deal Characteristics						
Deal Size		0.000	0.000	0.000	0.000	0.000
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Payment Type		0.001	0.001	0.000	0.001	0.001
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Nature of Bid		-0.004 +	-0.003 +	-0.003 *	-0.002 +	-0.003 *
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Multiple Bidder		0.002	0.002	0.002 +	0.002 +	0.002 *
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Firm Characteristics						
Acquirer Firm Size		-0.002	-0.001	-0.001	-0.000	-0.000
		(0.002)	(0.001)	(0.001)	(0.002)	(0.002)
Acquirer Leverage[b]		-0.001	0.000	0.000	0.000	0.000
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Acquirer Firm Age		-0.000	0.000	0.000	0.000	0.000
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Acquisition Experience		0.003 ***	0.004 ***	0.004 ***	0.004 ***	0.004 ***
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Acquirer's Past Performance		0.002	0.004	0.002	0.004	0.002
		(0.006)	(0.005)	(0.005)	(0.005)	(0.005)
Acquirer is SOE		0.005 ***	0.006 ***	0.005 **	0.005 ***	0.004 *
		(0.001)	(0.002)	(0.002)	(0.002)	(0.002)
Target in High Tech Industry		0.001	0.001	0.001	0.001	0.001
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Dyad Characteristics						
Acquirer & Target in different		-0.000	-0.000	-0.000	-0.000	-0.000
industries		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Institutional distance		-0.003	-0.001	-0.002	-0.001	-0.002
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Year Dummy		Included	Included	Included	Included	Included
Industry Dummy		Included	Included	Included	Included	Included
Constant		-0.010	-0.021 *	-0.017 +	-0.015	-0.013
		(0.011)	(0.009)	(0.009)	(0.010)	(0.009)
Observations		466	466	466	466	466
Adj. R-Square		0.2721 ***	0.3241 ***	0.3556 ***	0.3381 ***	0.3647 ***

Country=23, Standard errors in parentheses ***p<0.001, **p<0.01, *p<0.05, +p<0.1

Table 7. Fixed-Effects Models Predicting Chinese Firms' CBA Returns, 2000-2010

		Model1 CAR11	Model2 CAR11	Model3 CAR11	Model4 CAR11	Model5 CAR11
Productivity	H1		0.027 ***	0.024 ***	0.009	0.009
(Multilateral TFP Index)			(0.003)	(0.002)	(0.006)	(0.006)
Productivity* Cross-Listing	H2			0.034 ***		0.032 ***
				(0.007)		(0.008)
Productivity* Institutional Experience Breadth	H3				0.135 *	0.115 *
					(0.043)	(0.042)
Moderators						
Cross-listing		0.009 ***	0.012 ***	0.006 **	0.012 ***	0.007 **
		(0.001)	(0.001)	(0.002)	(0.001)	(0.002)
Institutional Experience Breadth		0.079 ***	0.062 ***	0.059 ***	0.027 +	0.028 +
		(0.010)	(0.009)	(0.002)	(0.014)	(0.014)
Control Variable						
Deal Characteristics						
Deal Size		0.000	0.000	0.000	0.000	0.000
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Payment Type		0.001	0.001	0.000	0.001	0.001
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Nature of Bid		-0.004 *	-0.003 +	-0.003 *	-0.002 +	-0.003 *
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Multiple Bidder		0.001	0.002	0.002 +	0.002 +	0.002 *
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Firm Characteristics						
Acquirer Firm Size		-0.002	-0.001	-0.001	-0.000	-0.000
		(0.002)	(0.001)	(0.001)	(0.002)	(0.002)
Acquirer Leverage[b]		-0.000	0.000	0.000	0.000	0.000
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Acquirer Firm Age		-0.000	0.000	0.000	0.000	0.000
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Acquisition Experience		0.003 *	0.004 ***	0.004 ***	0.004 ***	0.004 ***
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Acquirer's Past Performance		0.002	0.004	0.002	0.004	0.002
		(0.006)	(0.005)	(0.005)	(0.005)	(0.005)
Acquirer is SOE		0.005 *	0.006 ***	0.005 **	0.005 ***	0.004 *
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Target in High Tech Industry		0.001	0.001	0.001	0.001	0.001
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Dyad Characteristics						
Acquirer & Target in different		-0.000	-0.000	-0.000	-0.000	-0.000
industries		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Institutional distance		-0.000	-0.001	-0.002	-0.001	-0.002
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Year Dummy		Included	Included	Included	Included	Included
Industry Dummy		Included	Included	Included	Included	Included
Constant		-0.009	-0.018 +	-0.015	-0.013	-0.011
		(0.011)	(0.009)	(0.009)	(0.009)	(0.009)
Observations		466	466	466	466	466
Adj. R-Square		0.2507 ***	0.3074 ***	0.3365 ***	0.3200 ***	0.3448 ***

Country=23, Standard errors in parentheses ***p<0.001, **p<0.01, *p<0.05, +p<0.1

Table 8. Fixed-Effects Models Predicting Chinese Firms' CBA Returns, 2000-2010 post-acquisition Change in ROA

		Model1	Model2	Model3	Model4	Model5
Productivity	H1		0.618 ***	0.675 ***	0.816 +	0.823 +
(Multilateral TFP Index)			(0.102)	(0.117)	(0.411)	(0.425)
Productivity* Cross-Listing	H2			1.173 *		1.352 *
				(0.293)		(0.237)
Productivity* Institutional Experience Breadth	H3				7.511 +	8.365 +
					(4.011)	(4.221)
Moderators						
Cross-listing		0.304 *	0.111	0.096	0.098	0.143
		(0.148)	(0.146)	(0.146)	(0.146)	(0.222)
Institutional Experience Breadth		0.422	0.788	0.615	2.701	2.711
		1.101	(1.081)	(1.092)	(1.569)	(1.677)
Control Variable						
Deal Characteristics						
Deal Size		0.026	0.011	0.009	0.008	0.004
		(0.095)	(0.092)	(0.091)	(0.092)	(0.092)
Payment Type		0.346 *	0.336 *	0.344 *	0.339 *	0.336 *
		(0.122)	(0.117)	(0.117)	(0.117)	(0.117)
Nature of Bid		-0.002	0.042	0.043	0.044	0.044
		(0.148)	(0.142)	(0.142)	(0.142)	(0.142)
Multiple Bidder		0.089	0.078	0.076	0.068	0.065
		(0.152)	(0.157)	(0.146)	(0.147)	(0.146)
Firm Characteristics						
Acquirer Firm Size		1.265 ***	1.311 ***	1.302 ***	1.308 ***	1.297 ***
		(0.181)	(0.174)	(0.174)	(0.173)	(0.173)
Acquirer Leverage[b]		0.006	0.038	0.037	0.037	0.037
		(0.059)	(0.057)	(0.057)	(0.057)	(0.057)
Acquirer Firm Age		-0.005	-0.006	-0.006	-0.006	-0.006
		(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Acquisition Experience		0.128	0.123	0.124	0.124	0.124
		(0.138)	(0.131)	(0.131)	(0.131)	(0.131)
Acquirer's Past Performance		3.236 ***	3.395 ***	3.457 ***	3.439 ***	3.514 ***
		(0.676)	(0.651)	(0.651)	(0.649)	(0.651)
Acquirer is SOE		0.034	0.027	0.001	0.063	0.038
		(0.202)	(0.194)	(0.195)	(0.195)	(0.195)
Target in High Tech Industry		-0.375 *	-0.323 *	-0.323 *	-0.323 *	-0.321 *
		(0.146)	(0.141)	(0.141)	(0.141)	(0.141)
Dyad Characteristics						
Acquirer & Target in different		-0.198	-0.187	-0.181	-0.187	-0.187
industries		(0.132)	(0.127)	(0.127)	(0.127)	(0.127)
Institutional distance		0.471 +	0.489 +	0.527 *	0.458 +	0.498 +
		(0.265)	(0.251)	(0.262)	(0.259)	(0.260)
Year Dummy		Included	Included	Included	Included	Included
Industry Dummy		Included	Included	Included	Included	Included
Constant		-4.975 ***	-5.586 ***	-5.711 ***	-5.259 ***	-5.367 ***
		(1.139)	(1.109)	(1.112)	(1.128)	(1.129)
Observations		466	466	466	466	466
Adj. R-Square		0.2670 ***	0.3079 ***	0.3288 ***	0.3395 ***	0.3578 ***

Country=23, Standard errors in parentheses ***p<0.001, **p<0.01, *p<0.05, +p<0.1

Table 9. Fixed-Effects Models Predicting Chinese Firms' CBA Returns, 2000-2010 post-acquisition Change in Tobin's Q

		Model1	Model2	Model3	Model4	Model5
Productivity	H1		0.697 **	0.523 *	0.938 +	0.894 +
(Multilateral TFP Index)			(0.203)	(0.212)	(0.491)	(0.484)
Productivity* Cross-Listing	H2			1.599 *		1.661 **
				(0.625)		(0.629)
Productivity* Institutional Experience Breadth	H3				1.785	2.834
					(3.414)	(3.413)
Moderators						
Cross-listing		0.222 *	0.148	0.432 **	0.151	0.448 **
		(0.097)	(0.098)	(0.147)	(0.098)	(0.149)
Institutional Experience Breadth		0.668	0.203	0.032 ***	0.066	(0.068)
		(0.762)	(0.729)	(0.731)	(1.134)	(1.127)
Control Variable						
Deal Characteristics						
Deal Size		0.005	0.000	0.004	0.001	0.006
		(0.062)	(0.062)	(0.061)	(0.061)	(0.061)
Payment Type		0.073	0.069	0.058	0.068	0.055
		(0.079)	(0.079)	(0.079)	(0.079)	(0.078)
Nature of Bid		-0.051	-0.035	-0.038	-0.035	-0.038
		(0.097)	(0.095)	(0.095)	(0.096)	(0.095)
Multiple Bidder		0.351 *	0.345 *	0.348 ***	0.348 ***	0.348 ***
		(0.101)	(0.099)	(0.098)	(0.099)	(0.099)
Firm Characteristics						
Acquirer Firm Size		-0.059	-0.044	-0.032	-0.043	-0.031
		(0.118)	(0.117)	(0.116)	(0.117)	(0.117)
Acquirer Leverage[b]		0.074 +	0.086 *	0.087 *	0.087 *	0.087 *
		(0.038)	(0.039)	(0.038)	(0.038)	(0.038)
Acquirer Firm Age		-0.006	-0.006	-0.006	-0.006	-0.006
		(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Acquisition Experience		-0.025	-0.025	-0.025	-0.025	-0.025
		(0.089)	(0.089)	(0.089)	(0.089)	(0.089)
Acquirer's Past Performance		-0.309	-0.249	-0.332	-0.259	-0.352
		(0.443)	(0.438)	(0.437)	(0.439)	(0.437)
Acquirer is SOE		-0.045	-0.042	-0.078	-0.343 ***	-0.066 *
		(0.133)	(0.131)	(0.131)	(0.132)	(0.132)
Target in High Tech Industry		0.058	0.078	0.092	0.083	0.098
		(0.095)	(0.094)	(0.094)	(0.095)	(0.095)
Dyad Characteristics						
Acquirer & Target in different		0.181 *	0.185 *	0.178 *	0.184 *	0.178 *
industries		(0.087)	(0.085)	(0.085)	(0.085)	(0.085)
Institutional distance		0.264	0.271	0.219	0.278	0.229
		(0.163)	(0.174)	(0.174)	(0.175)	(0.175)
Year Dummy		Included	Included	Included	Included	Included
Industry Dummy		Included	Included	Included	Included	Included
Constant		0.586	0.351	0.522	0.274	0.406
		(0.754)	(0.747)	(0.745)	(0.762)	(0.076)
Observations		466	466	466	466	466
Adj. R-Square		0.1336 ***	0.1650 ***	0.1769 ***	0.1644 ***	0.1775 ***

Country=23, Standard errors in parentheses ***p<0.001, **p<0.01, *p<0.05, +p<0.1

Table 10. Fixed-Effects Models Predicting Chinese Firms' CBA Returns, 2000-2010 non- State Owned Enterprise

		Model1 CAR5	Model2 CAR5	Model3 CAR5	Model4 CAR5	Model5 CAR5
Productivity	H1		0.029 ***	0.028 ***	0.029 +	0.019
(Multilateral TFP Index)			(0.005)	(0.006)	(0.017)	(0.019)
Productivity* Cross-Listing	H2			0.024		0.026
				(0.017)		(0.018)
Productivity* Institutional Experience Breadth	H3				-0.003	0.051
					(0.113)	(0.118)
Moderators						
Cross-listing		0.008 ***	0.012 ***	0.009 **	0.012 ***	0.009 *
		(0.002)	(0.002)	(0.003)	(0.003)	(0.004)
Institutional Experience Breadth		0.093 ***	0.085 ***	0.082 ***	0.086 *	0.068 +
		(0.020)	(0.018)	(0.018)	(0.033)	(0.034)
Control Variable						
Deal Characteristics						
Deal Size		-0.001	-0.001	-0.001	-0.001	-0.001
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Payment Type		0.002	0.002	0.002	0.002	0.002
		(0.003)	(0.003)	(0.002)	(0.002)	(0.003)
Nature of Bid		-0.009 +	-0.009 *	-0.009 *	-0.009 *	-0.009 *
		(0.004)	(0.003)	(0.003)	(0.003)	(0.003)
Multiple Bidder		-0.002	-0.002	-0.002	-0.002	-0.002
		(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
Firm Characteristics						
Acquirer Firm Size		-0.001	0.003	0.003	0.003	0.003
		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Acquirer Leverage[b]		-0.000	0.001	0.000	0.000	0.001
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Acquirer Firm Age		0.000	0.000	0.000	0.000	0.000
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Acquisition Experience		0.002	0.001	0.001	0.001	0.001
		(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
Acquirer's Past Performance		0.004	0.002	0.002	0.002	0.002
		(0.01)	(0.011)	(0.011)	(0.011)	(0.011)
Target in High Tech Industry		0.002	0.004	0.004 +	0.004	0.004 +
		(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
Dyad Characteristics						
Acquirer & Target in different		0.003	0.008	0.001	0.001	0.001
industries		(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
Institutional distance		0.001	-0.001	-0.002	-0.001	-0.001
		(0.005)	(0.005)	(0.004)	(0.005)	(0.005)
Year Dummy		Included	Included	Included	Included	Included
Industry Dummy		Included	Included	Included	Included	Included
Constant		-0.044 +	-0.052 +	-0.026	-0.052 *	-0.023
		(0.026)	(0.024)	(0.024)	(0.024)	(0.025)
Observations		155	155	155	155	155
Adj. R-Square		0.2871 ***	0.4015 ***	0.4130 ***	0.4015 ***	0.4145 ***

Country=23, Standard errors in parentheses ***p<0.001, **p<0.01, *p<0.05, +p<0.1

Table 11. Fixed-Effects Models Predicting Chinese Firms' CBA Returns, 2000-2010 State Owned Enterprise

		Model1 CAR5	Model2 CAR5	Model3 CAR5	Model4 CAR5	Model5 CAR5
Productivity	H1		0.031 ***	0.026 ***	0.006 *	0.009 **
(Multilateral TFP Index)			(0.003)	(0.003)	(0.002)	(0.002)
Productivity* Cross-Listing	H2			0.042		0.034 **
				(0.009)		(0.010)
Productivity* Institutional Experience Breadth	H3				0.192 ***	0.140 **
					(0.049)	(0.051)
Moderators						
Cross-listing		0.008 ***	0.012 ***	0.003	0.012 ***	0.005 +
		(0.001)	(0.002)	(0.002)	(0.002)	(0.003)
Institutional Experience Breadth		0.082 ***	0.056 ***	0.052 ***	0.005	0.015
		(0.013)	(0.011)	(0.011)	(0.017)	(0.017)
Control Variable						
Deal Characteristics						
Deal Size		0.001	-0.000	0.000	0.000	0.000
		(0.001)	(0.000)	(0.001)	(0.001)	(0.001)
Payment Type		0.001	0.001	0.001	0.001	0.001
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Nature of Bid		-0.003	-0.002 +	-0.002	-0.002 +	-0.002
		(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Multiple Bidder		0.003	0.002	0.001	0.001	0.001
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Firm Characteristics						
Acquirer Firm Size		-0.002	-0.001	-0.001	-0.001	-0.001
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Acquirer Leverage[b]		-0.000	-0.000	0.000	0.000	0.000
		(0.000)	(0.001)	(0.000)	(0.000)	(0.001)
Acquirer Firm Age		-0.000	-0.000	-0.000	-0.000	-0.000
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Acquisition Experience		0.004 *	0.004 ***	0.005 ***	0.004 ***	0.004 ***
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Acquirer's Past Performance		0.002	0.007	0.004	0.004	0.002
		(0.008)	(0.007)	(0.007)	(0.005)	(0.005)
Target in High Tech Industry		0.000	0.001	0.001	0.001	0.001
		(0.002)	(0.002)	(0.001)	(0.001)	(0.001)
Dyad Characteristics						
Acquirer & Target in different		-0.001	0.000	-0.000	-0.000	-0.000
industries		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Institutional distance		0.001	0.002	0.001	-0.001	-0.002
		(0.003)	(0.003)	(0.003)	(0.002)	(0.002)
Year Dummy		Included	Included	Included	Included	Included
Industry Dummy		Included	Included	Included	Included	Included
Constant		-0.002	-0.011	-0.009	-0.001	-0.002
		(0.014)	(0.013)	(0.012)	(0.012)	(0.012)
Observations		311	311	311	311	311
Adj. R-Square		0.2541 ***	0.4503 ***	0.4887 ***	0.4758 ***	0.4938 ***

Country=23, Standard errors in parentheses ***p<0.001, **p<0.01, *p<0.05, +p<0.1

Table 12. Fixed-Effects Models Predicting Chinese Firms' CBA Returns, 2000-2010 Consumer goods (non-Durable goods) Industry

		Model1 CAR5	Model2 CAR5	Model3 CAR5	Model4 CAR5	Model5 CAR5
Productivity	H1		0.042 +	0.023	0.049	0.026
(Multilateral TFP Index)			(0.019)	(0.019)	(0.084)	(0.074)
Productivity* Cross-Listing	H2			0.083		0.083
				(0.044)		(0.049)
Productivity* Institutional Experience Breadth	H3				-0.051	-0.016
					(0.578)	(0.495)
Moderators						
Cross-listing		0.035 *	0.033 **	-0.002	0.034 +	-0.001
		(0.012)	(0.009)	(0.021)	(0.015)	(0.074)
Institutional Experience Breadth		-0.053	0.025	0.031	0.042	0.035
		(0.060)	(0.061)	(0.051)	(0.211)	(0.172)
Control Variable						
Deal Characteristics						
Deal Size		-0.013 *	-0.011 *	-0.002	-0.012	-0.002
		(0.005)	(0.004)	(0.006)	(0.007)	(0.008)
Payment Type		0.010	0.012 *	0.006	0.012	0.006
		(0.001)	(0.005)	(0.005)	(0.006)	(0.006)
Nature of Bid		-0.011	-0.008 +	0.001	-0.008	0.001
		(0.008)	(0.006)	(0.007)	(0.006)	(0.007)
Multiple Bidder		0.005	0.011	-0.000	0.012	-0.001
		(0.008)	(0.007)	(0.009)	(0.011)	(0.012)
Firm Characteristics						
Acquirer Firm Size		0.019	0.033 *	0.016	0.034	0.016
		(0.013)	(0.012)	(0.014)	(0.019)	(0.019)
Acquirer Leverage[b]		0.007	0.011 *	0.003	0.011	0.004
		(0.004)	(0.004)	(0.005)	(0.007)	(0.007)
Acquirer Firm Age		0.001	0.001	0.000	0.001	0.000
		(0.001)	(0.001)	(0.000)	(0.001)	(0.001)
Acquisition Experience		-0.014 ***	-0.024 +	-0.026 +	-0.023 +	-0.026 +
		(0.012)	(0.011)	(0.009)	(0.011)	(0.009)
Acquirer's Past Performance		0.009	-0.017	-0.019	-0.019	-0.021
		(0.053)	(0.045)	(0.038)	(0.056)	(0.048)
Acquirer is SOE		0.019	0.029	0.046 *	0.027	0.046
		(0.021)	(0.017)	(0.018)	(0.028)	(0.029)
Target in High Tech Industry		-0.003	-0.012	-0.007	-0.013	-0.007
		(0.007)	(0.007)	(0.007)	(0.009)	(0.009)
Dyad Characteristics						
Acquirer & Target in different		-0.003	0.008	0.006	0.009	0.006
industries		(0.002)	(0.007)	(0.006)	(0.009)	(0.008)
Institutional distance		0.021	0.002	-0.007	0.002	-0.007
		(0.018)	(0.016)	(0.015)	(0.018)	(0.017)
Year Dummy		Included	Included	Included	Included	Included
Constant		-0.081	-0.153 +	-0.162	-0.159	-0.073
		(0.071)	(0.066)	(0.087)	(0.103)	(0.011)
Observations		39	39	39	39	39
Adj. R-Square		0.2654 ***	0.2826 ***	0.2926 ***	0.2948 ***	0.3237 ***

Standard errors in parentheses ***p<0.001, **p<0.01, *p<0.05, +p<0.1

Table 13. Fixed-Effects Models Predicting Chinese Firms' CBA Returns, 2000-2010 Manufacturing Industry

		Model1 CAR5	Model2 CAR5	Model3 CAR5	Model4 CAR5	Model5 CAR5
Productivity	H1		0.027 *	0.024 *	-0.009	-0.024
(Multilateral TFP Index)			(0.011)	(0.012)	(0.025)	(0.027)
Productivity* Cross-Listing	H2			0.015		0.028
				(0.021)		(0.021)
Productivity* Institutional Experience Breadth	H3				0.201	0.261 +
					(0.126)	(0.131)
Moderators						
Cross-listing		-0.001	0.005	0.003	0.004	-0.002
		(0.004)	(0.004)	(0.005)	(0.004)	(0.006)
Institutional Experience Breadth		0.108 ***	0.061 +	0.056	0.024	0.003
		(0.022)	(0.032)	(0.032)	(0.038)	(0.041)
Control Variable						
Deal Characteristics						
Deal Size		0.002	0.004	0.004	0.004	0.004
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Payment Type		-0.001	-0.001	-0.001	0.000	0.000
		(0.002)	(0.003)	(0.003)	(0.003)	(0.003)
Nature of Bid		-0.008 +	-0.006 +	-0.007 +	-0.005	-0.006
		(0.004)	(0.004)	(0.004)	(0.003)	(0.004)
Multiple Bidder		0.003	0.003	0.004	0.003	0.003
		(0.004)	(0.003)	(0.004)	(0.003)	(0.004)
Firm Characteristics						
Acquirer Firm Size		0.013 +	0.011	0.011	0.011	0.011
		(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Acquirer Leverage[b]		0.000	0.000	0.000	0.000	0.000
		(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Acquirer Firm Age		-0.000	-0.000	-0.000	-0.000	-0.000
		(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
Acquisition Experience		-0.000	-0.001	-0.002	-0.003	-0.005
		(0.004)	(0.003)	(0.004)	(0.004)	(0.004)
Acquirer's Past Performance		0.028	0.021	0.017	0.024	0.017
		(0.023)	(0.022)	(0.022)	(0.021)	(0.021)
Acquirer is SOE		-0.003	-0.001	-0.001	-0.001	-0.001
		(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Target in High Tech Industry		-0.002	-0.001	-0.001	-0.002	-0.001
		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Dyad Characteristics						
Acquirer & Target in different		-0.003	-0.005	-0.006	-0.004	-0.005
industries		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Institutional distance		-0.001	-0.000	-0.000	-0.000	-0.000
		(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Year Dummy		Included	Included	Included	Included	Included
Constant		-0.104 *	-0.075 *	-0.108 *	-0.108	-0.087 *
		(0.041)	(0.029)	(0.039)	(0.039)	(0.039)
Observations		68	68	68	68	68
Adj. R-Square		0.2522 ***	0.2830 ***	0.3048 ***	0.2905 ***	0.3127 ***

Standard errors in parentheses ***p<0.001, **p<0.01, *p<0.05, +p<0.1

Table 14. Fixed-Effects Models Predicting Chinese Firms' CBA Returns, 2000-2010; Energy Oil, Gas, and Coal Extraction Industry

		Model1 CAR5	Model2 CAR5	Model3 CAR5	Model4 CAR5	Model5 CAR5
Productivity	H1		0.027	0.024	-0.004	-0.004
(Multilateral TFP Index)			(0.023)	(0.025)	(0.038)	(0.039)
Productivity* Cross-Listing	H2			0.035		0.025
				(0.071)		(0.072)
Productivity* Institutional Experience Breadth	H3				0.216	0.021
					(0.206)	(0.022)
Moderators						
Cross-listing		0.007	0.010	0.002	0.009	0.004
		(0.007)	(0.007)	(0.017)	(0.007)	(0.017)
Institutional Experience Breadth		0.208 **	0.156 *	0.146 +	0.111	0.011
		(0.058)	(0.074)	(0.079)	(0.085)	(0.089)
Control Variable						
Deal Characteristics						
Deal Size		-0.008	-0.009	-0.007	-0.008	-0.008
		(0.006)	(0.006)	(0.007)	(0.006)	(0.006)
Payment Type		0.011	0.008	0.007	0.008	0.007
		(0.007)	(0.007)	(0.008)	(0.007)	(0.008)
Nature of Bid		-0.008	-0.008	-0.008	-0.007	-0.008
		(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Multiple Bidder		-0.011	-0.015	-0.014	-0.011	-0.011
		(0.011)	(0.012)	(0.013)	(0.013)	(0.013)
Firm Characteristics						
Acquirer Firm Size		-0.001	-0.002	-0.004	-0.003	-0.004
		(0.011)	(0.011)	(0.012)	(0.011)	(0.012)
Acquirer Leverage[b]		0.006 +	0.005	0.005	0.004	0.005
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Acquirer Firm Age		-0.000	-0.000	-0.000	-0.000	-0.000
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Acquisition Experience		-0.005	-0.005	-0.005	-0.003	-0.005
		(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Acquirer's Past Performance		-0.056	-0.042	-0.034	-0.046	-0.041
		(0.051)	(0.052)	(0.055)	(0.052)	(0.056)
Acquirer is SOE		0.016 +	0.015 +	0.015 +	0.010	0.011
		(0.008)	(0.008)	(0.009)	(0.008)	(0.008)
Target in High Tech Industry		0.013	0.014 +	0.012	0.008	0.007
		(0.008)	(0.007)	(0.008)	(0.009)	(0.009)
Dyad Characteristics						
Acquirer & Target in different		0.005	0.006	0.005	0.003	0.002
industries		(0.006)	(0.006)	(0.007)	(0.007)	(0.008)
Institutional distance		0.022	0.034	0.026	0.026	0.021
		(0.016)	(0.019)	(0.026)	(0.021)	(0.021)
Year Dummy		Included	Included	Included	Included	Included
Constant		-0.095	-0.098	-0.071	-0.073	-0.055
		(0.071)	(0.069)	(0.088)	().073)	(0.091)
Observations		55	55	55	55	55
Adj. R-Square		0.1608 ***	0.1801 ***	0.2043 ***	0.2226 ***	0.2342 ***

Standard errors in parentheses ***p<0.001, **p<0.01, *p<0.05, +p<0.1

Table 15. Fixed-Effects Models Predicting Chinese Firms' CBA Returns, 2000-2010 Business & Electronic Equipment Industry

		Model1 CAR5	Model2 CAR5	Model3 CAR5	Model4 CAR5	Model5 CAR5
Productivity	H1		0.046 ***	0.043 ***	0.062 *	0.064 *
(Multilateral TFP Index)			(0.006)	(0.006)	(0.031)	(0.029)
Productivity* Cross-Listing	H2			0.058 *		0.059 *
				(0.028)		(0.029)
Productivity* Institutional Experience Breadth	H3				-0.116	-0.143
					(0.213)	(0.203)
Moderators						
Cross-listing		0.007	0.011 **	0.004	0.011 ***	0.003
		(0.005)	(0.003)	(0.005)	(0.004)	(0.005)
Institutional Experience Breadth		0.087 *	0.081 **	0.076 *	0.106 +	0.109 *
		(0.039)	(0.027)	(0.025)	(0.053)	(0.051)
Control Variable						
Deal Characteristics						
Deal Size		0.007 *	0.005 *	0.004 *	0.005 *	0.004 *
		(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
Payment Type		-0.003	-0.002	-0.001	-0.001	-0.001
		(0.003)	(0.002)	(0.003)	(0.003)	(0.003)
Nature of Bid		-0.005	-0.001	-0.001	-0.001	-0.001
		(0.005	(0.004)	(0.004)	(0.004)	(0.004)
Multiple Bidder		0.004	0.006 +	0.006 *	0.006 *	0.006 *
		(0.005)	(0.003)	(0.003)	(0.003)	(0.003)
Firm Characteristics						
Acquirer Firm Size		-0.005	-0.005	-0.007	-0.004	-0.006
		().006)	(0.005)	(0.004)	(0.005)	(0.004)
Acquirer Leverage[b]		-0.002	-0.002 +	-0.002 +	-0.002 +	-0.002 +
		(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Acquirer Firm Age		-0.000	-0.000	-0.000	-0.000	-0.000
		().000)	(0.000)	(0.000)	(0.000)	(0.000)
Acquisition Experience		-0.000 ***	-0.002	-0.001	-0.001	-0.001
		(0.005)	(0.003)	(0.003)	(0.003)	(0.003)
Acquirer's Past Performance		0.006	0.022	0.017	0.022	0.019
		(0.029)	(0.018)	(0.018)	(0.019)	(0.018)
Acquirer is SOE		0.004	0.002	0.002	0.002	0.002
		(0.007)	(0.004)	(0.004)	(0.004)	(0.004)
Target in High Tech Industry		0.003	0.002	0.003	0.002	0.002
		(0.005)	(0.004)	(0.003)	(0.004)	(0.004)
Dyad Characteristics						
Acquirer & Target in different		-0.005	-0.005 +	-0.005 +	-0.005 +	-0.005 +
industries		(0.004)	(0.003)	(0.003)	(0.003)	(0.003)
Institutional distance		-0.004	0.000	0.003	0.001	0.003
		(0.008)	(0.006)	(0.006)	(0.006)	(0.006)
Year Dummy		Included	Included	Included	Included	Included
Constant		0.006	-0.004	-0.001	-0.013	-0.012
		(0.042)	(0.028)	(0.027)	(0.032)	(0.031)
Observations		77	77	77	77	77
Adj. R-Square		0.1531 ***	0.3329 ***	0.3381 ***	0.3241 ***	0.3299 ***

Standard errors in parentheses ***p<0.001, **p<0.01, *p<0.05, +p<0.1

Table 16. Fixed-Effects Models Predicting Chinese Firms' CBA Returns, 2000-2010; Business Service Industry

		Model1 CAR5	Model2 CAR5	Model3 CAR5	Model4 CAR5	Model5 CAR5
Productivity	H1		0.041 ***	0.034 **	0.036	0.027
(Multilateral TFP Index)			(0.008)	(0.009)	(0.022)	(0.022)
Productivity* Cross-Listing	H2			0.024		0.024
				(0.017)		(0.018)
Productivity* Institutional Experience Breadth	H3				0.034	0.053
					(0.151)	(0.149)
Moderators						
Cross-listing		0.007	0.013 **	0.007	0.013 ***	0.007
		(0.004)	(0.003)	(0.005)	(0.004)	(0.005)
Institutional Experience Breadth		0.031	0.028	0.029	0.021	0.017
		(0.034)	(0.025)	(0.025)	(0.044)	(0.043)
Control Variable						
Deal Characteristics						
Deal Size		-0.002	0.001	0.001	0.001	0.001
		(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
Payment Type		0.000	-0.002	-0.002	-0.002	-0.002
		(0.000)	(0.002)	(0.002)	(0.002)	(0.002)
Nature of Bid		0.007	0.006 +	0.006 +	0.006 +	0.006 +
		(0.004)	(0.003)	(0.003)	(0.003)	(0.003)
Multiple Bidder		0.004	0.005	0.005	0.005	0.005
		(0.004)	(0.003)	(0.003)	(0.003)	(0.003)
Firm Characteristics						
Acquirer Firm Size		-0.017 *	-0.008 +	-0.006	-0.008 +	-0.005
		(0.005)	(0.004)	(0.004)	(0.004)	(0.004)
Acquirer Leverage[b]		-0.003 +	-0.001	-0.001	-0.001	-0.001
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Acquirer Firm Age		0.000	0.000	0.000	0.000	0.000
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Acquisition Experience		-0.002	-0.001	-0.000	-0.000	-0.000
		(0.004)	(0.003)	(0.003)	(0.003)	(0.003)
Acquirer's Past Performance		0.025	0.021	0.014	0.021	0.015
		(0.021)	(0.015)	(0.016)	(0.016)	(0.016)
Acquirer is SOE		0.012 *	0.007 +	0.005	0.006	0.004
		(0.005)	(0.004)	(0.004)	(0.004)	(0.004)
Target in High Tech Industry		0.009 *	0.006 +	0.006 +	0.006 +	0.006 +
		(0.004)	(0.003)	(0.003)	(0.003)	(0.003)
Dyad Characteristics						
Acquirer & Target in different		-0.001	0.001	0.001	0.001	0.001
industries		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Institutional distance		0.004	-0.001	-0.001	-0.001	-0.001
		(0.007)	(0.005)	(0.006)	(0.006)	(0.006)
Year Dummy		Included	Included	Included	Included	Included
Constant		0.043	-0.007	-0.011	-0.006	-0.010
		(0.025)	(0.028)	(0.029)	(0.029)	(0.029)
Observations		67	67	67	67	67
Adj. R-Square		0.2192 ***	0.3445 ***	0.3765 ***	0.3522 ***	0.3713 ***

Standard errors in parentheses ***p<0.001, **p<0.01, *p<0.05, +p<0.1

Table 17. Fixed-Effects Models Predicting Chinese Firms' CBA Returns, 2000-2010 Target Country: Australia

		Model1 CAR5	Model2 CAR5	Model3 CAR5	Model4 CAR5	Model5 CAR5
Productivity	H1		0.0039 ***	0.038 ***	0.043 *	0.044 *
(Multilateral TFP Index)			(0.006)	(0.007)	(0.017)	(0.017)
Productivity* Cross-Listing	H2			0.017		0.019
				(0.029)		(0.029)
Productivity* Institutional Experience Breadth	H3				-0.031	-0.045
					(0.106)	(0.109)
Moderators						
Cross-listing		0.007	0.013 **	0.009	0.013 **	0.009
		(0.004)	(0.004)	(0.007)	(0.004)	(0.007)
Institutional Experience Breadth		0.134 ***	0.100 ***	0.098 ***	0.108 **	0.111 *
		(0.029)	(0.025)	(0.025)	(0.037)	(0.038)
Control Variable						
Deal Characteristics						
Deal Size		0.004	0.001	0.001	0.001	0.001
		(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
Payment Type		0.002	0.004	0.004	0.004	0.004
		(0.004)	(0.003)	(0.003)	(0.003)	(0.003)
Nature of Bid		-0.000	0.000	-0.000	-0.000	-0.000
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Multiple Bidder		0.001	0.001	0.001	0.001	0.001
		(0.004)	(0.003)	(0.003)	(0.003)	(0.003)
Firm Characteristics						
Acquirer Firm Size		-0.004	-0.005	-0.005	-0.005	-0.005
		(0.008)	(0.006)	(0.006)	(0.006)	(0.006)
Acquirer Leverage[b]		-0.000	-0.000	-0.000	-0.000	-0.000
		(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Acquirer Firm Age		-0.000	-0.000	-0.000	-0.000	-0.000
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Acquisition Experience		-0.008 *	-0.005	-0.005	-0.005	-0.005
		(0.004)	(0.003)	(0.003)	(0.003)	(0.003)
Acquirer's Past Performance		0.009 +	0.041 *	0.040 *	0.040 *	0.040 *
		(0.005)	(0.019)	(0.019)	(0.019)	(0.019)
Acquirer is SOE		0.009 +	0.004	0.003	0.004	0.004
		(0.005)	(0.004)	(0.004)	(0.005)	(0.005)
Target in High Tech Industry		-0.003	-0.002	-0.001	-0.002	-0.002
		(0.004)	(0.003)	(0.003)	(0.004)	(0.004)
Dyad Characteristics						
Acquirer & Target in different		0.004	0.005	0.004	0.004	0.004
industries		(0.004)	(0.004)	(0.003)	(0.003)	(0.003)
Institutional distance		0.009	0.011	0.009	0.010	0.010
		(0.008)	(0.007)	(0.007)	(0.006)	(0.006)
Year Dummy		Included	Included	Included	Included	Included
Industry Dummy		Included	Included	Included	Included	Included
Constant		-0.032	-0.004	-0.031	-0.034	-0.029
		(0.043)	(0.035)	(.029)	(0.028)	(0.029)
Observations		89	89	89	89	89
Adj. R-Square		0.2222 ***	0.3238 ***	0.3229 ***	0.3231 ***	0.3241 ***

Country=23, Standard errors in parentheses ***p<0.001, **p<0.01, *p<0.05, +p<0.1

Table 18. Fixed-Effects Models Predicting Chinese Firms' CBA Returns, 2000-2010; Target Country: Canada

		Model1 CAR5	Model2 CAR5	Model3 CAR5	Model4 CAR5	Model5 CAR5
Productivity	H1		0.029 ***	0.028 *	-0.011	-0.011
(Multilateral TFP Index)			(0.011)	(0.011)	(0.023)	(0.023)
Productivity* Cross-Listing	H2			0.034		0.028
				(0.037)		(0.035)
Productivity* Institutional Experience Breadth	H3				0.308 +	0.029 +
					(0.161)	(0.016)
Moderators						
Cross-listing		0.006	0.015 +	0.007	0.015 *	0.011
		(0.007)	(0.006)	(0.008)	(0.006)	(0.008)
Institutional Experience Breadth		0.071	0.051	0.044	-0.023 +	-0.024
		(0.055)	(0.051)	(0.052)	(0.062)	(0.063)
Control Variable						
Deal Characteristics						
Deal Size		0.006	0.007 *	0.007 +	0.007 +	0.007 +
		(0.004)	(0.003)	(0.003)	(0.003)	(0.003)
Payment Type		-0.002	-0.003	-0.002	-0.003	-0.003
		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Nature of Bid		-0.004	-0.006	-0.006	-0.006	-0.006
		(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Multiple Bidder		-0.003	-0.005	-0.005	-0.005	-0.005
		(0.005)	(0.004)	(0.005)	(0.005)	(0.005)
Firm Characteristics						
Acquirer Firm Size		-0.007	-0.006	-0.006	-0.006	-0.006
		(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Acquirer Leverage[b]		-0.006 *	-0.004 +	-0.004 +	-0.004 +	-0.004 +
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Acquirer Firm Age		-0.000	-0.003	-0.000	-0.000	-0.000
		(0.003)	(0.003)	(0.000)	(0.000)	(0.000)
Acquisition Experience		-0.006	-0.005	-0.003	-0.002	-0.002
		(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Acquirer's Past Performance		0.002	-0.002	-0.001	-0.000	-0.000
		(0.019)	(0.018)	(0.018)	(0.018)	(0.018)
Acquirer is SOE		0.012	0.011	0.009	0.006	0.006
		(0.007)	(0.006)	(0.007)	(0.007)	(0.007)
Target in High Tech Industry		0.009 +	0.006	0.005	0.004	0.003
		(0.004)	(0.004)	(0.004)	(0.005)	(0.004)
Dyad Characteristics						
Acquirer & Target in different		0.004	0.002	0.003	0.003	0.003
industries		(0.005)	(0.004)	(0.004)	(0.004)	(0.004)
Institutional distance		0.011	0.008	0.008	0.006	0.007
		(0.011)	(0.011)	(0.010)	(0.009)	(0.009)
Year Dummy		Included	Included	Included	Included	Included
Industry Dummy		Included	Included	Included	Included	Included
Constant		0.008	0.005	-0.000	0.013	0.014
		(0.038)	(0.035)	(0.034)	(0.033)	(0.034)
Observations		61	61	61	61	61
Adj. R-Square		0.2322 ***	0.2745 ***	0.2822 ***	0.2989 ***	0.3015 ***

Country=23, Standard errors in parentheses ***p<0.001, **p<0.01, *p<0.05, +p<0.1

Table 19. Fixed-Effects Models Predicting Chinese Firms' CBA Returns, 2000-2010 Target Country: Germany

		Model1 CAR5	Model2 CAR5	Model3 CAR5	Model4 CAR5	Model5 CAR5
Productivity	H1		0.031	0.025	0.143	0.126
(Multilateral TFP Index)			(0.029)	(0.031)	(0.116)	(0.126)
Productivity* Cross-Listing	H2			0.069		0.061
				(0.081)		(0.086)
Productivity* Institutional Experience Breadth	H3				-0.866	-0.783
					(0.876)	(0.941)
Moderators						
Cross-listing		0.007	0.015	-0.004	0.016	-0.001
		(0.020)	(0.021)	(0.031)	(0.021)	(0.032)
Institutional Experience Breadth		0.121	0.106	0.074	0.367	0.314
		(0.125)	(0.124)	(0.132)	(0.293)	(0.321)
Control Variable						
Deal Characteristics						
Deal Size		-0.006	0.002	0.003	-0.006	-0.004
		(0.012)	(0.014)	(0.015)	(0.017)	(0.018)
Payment Type		-0.007	-0.016	-0.009	-0.013	-0.006
		(0.018)	(0.019)	(0.021)	(0.019)	(0.022)
Nature of Bid		-0.028 +	-0.016	-0.009	-0.025	-0.019
		(0.013)	(0.017)	(0.019)	(0.020)	(0.023)
Multiple Bidder		0.005	0.014	0.014	0.014	0.014
		(0.019)	(0.021)	(0.022)	(0.022)	(0.022)
Firm Characteristics						
Acquirer Firm Size		0.008	0.017	0.012	0.006	0.002
		(0.019)	(0.022)	(0.023)	(0.025)	(0.024)
Acquirer Leverage[b]		0.001	0.000	0.000	0.000	0.000
		(0.004)	(0.005)	(0.005)	(0.005)	(0.005)
Acquirer Firm Age		-0.001	-0.000	-0.000	-0.000	-0.000
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Acquisition Experience		-0.004	0.006	-0.004	0.002	0.000
		(0.015)	(0.018)	(0.019)	(0.019)	(0.020)
Acquirer's Past Performance		-0.056	0.027	0.013	-0.023	-0.031
		(0.092)	(0.012)	(0.124)	(0.131)	(0.139)
Acquirer is SOE		0.016	0.011	0.009	0.013	0.012
		(0.017)	(0.017)	(0.019)	(0.017)	(0.019)
Target in High Tech Industry		-0.018	0.001	0.000	0.000	0.000
		(0.018)	(0.025)	(0.026)	(0.026)	(0.026)
Dyad Characteristics						
Acquirer & Target in different		-0.006	-0.006	-0.003	-0.005	-0.003
industries		(0.012)	(0.012)	(0.013)	(0.012)	(0.013)
Institutional distance		-0.029	-0.005	0.001	-0.013	-0.007
		(0.027)	(0.035)	(0.036)	(0.036)	(0.039)
Year Dummy		Included	Included	Included	Included	Included
Industry Dummy		Included	Included	Included	Included	Included
Constant		0.004	-0.147	-0.127	-0.057	-0.048
		(0.171)	(0.221)	(0.227)	(0.281)	(0.254)
Observations		31	31	31	31	31
Adj. R-Square		0.3665 ***	0.3921 ***	0.4033 ***	0.4045 ***	0.4261 ***

Country=23, Standard errors in parentheses ***p<0.001, **p<0.01, *p<0.05, +p<0.1

Table 20. Fixed-Effects Models Predicting Chinese Firms' CBA Returns, 2000-2010; Target Country: Singapore

		Model1 CAR5	Model2 CAR5	Model3 CAR5	Model4 CAR5	Model5 CAR5
Productivity	H1		0.014	0.006	-0.006	-0.029
(Multilateral TFP Index)			(0.018)	(0.021)	(0.046)	(0.054)
Productivity* Cross-Listing	H2			0.023		0.033
				(0.035)		(0.038)
Productivity* Institutional Experience Breadth	H3				0.149	0.251
					(0.324)	(0.347)
Moderators						
Cross-listing		0.014 *	0.015 *	0.009	0.014 *	0.006
		(0.005)	(0.006)	(0.011)	(0.006)	(0.012)
Institutional Experience Breadth		0.077 +	0.067	0.058	0.017	-0.029
		(0.044)	(0.047)	(0.049)	(0.118)	(0.131)
Control Variable						
Deal Characteristics						
Deal Size		-0.005 +	-0.004	-0.004	-0.004	-0.004
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Payment Type		0.005	0.004	0.004	0.004	0.004
		(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Nature of Bid		-0.004	-0.003	-0.002	-0.001	0.001
		(0.009)	(0.009)	(0.009)	(0.009)	(0.01)
Multiple Bidder		-0.002	-0.002	-0.001	0.004	-0.003
		(0.008)	(0.008)	(0.008)	(0.006)	(0.008)
Firm Characteristics						
Acquirer Firm Size		0.018 +	0.017 +	0.015	0.016	0.014
		(0.009)	(0.009)	(0.011)	(0.009)	(0.011)
Acquirer Leverage[b]		0.004	0.004	0.004	0.004	0.004
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Acquirer Firm Age		0.001	0.001	0.001	0.001	0.001
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Acquisition Experience		0.007	0.006	0.005	0.005	0.005
		(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Acquirer's Past Performance		-0.041	-0.041	-0.048	-0.043	-0.055
		(0.039)	(0.039)	(0.048)	(0.041)	(0.043)
Acquirer is SOE		-0.017 +	-0.016 +	-0.015	-0.013	-0.009
		(0.009)	(0.009)	(0.009)	(0.012)	(0.012)
Target in High Tech Industry		0.006	0.001	0.002	0.000	-0.000
		(0.005)	(0.005)	(0.005)	(0.007)	(0.006)
Dyad Characteristics						
Acquirer & Target in different		-0.006	-0.006	-0.005	-0.003	-0.001
industries		(0.005)	(0.005)	(0.006)	(0.007)	(0.008)
Institutional distance		0.013	0.011	0.009	0.012	0.009
		(0.011)	(0.011)	(0.012)	(0.011)	(0.011)
Year Dummy		Included	Included	Included	Included	Included
Industry Dummy		Included	Included	Included	Included	Included
Constant		-0.088	-0.081	-0.098	-0.081	-0.067
		(0.055)	(0.057)	(0.061)	(0.058)	(0.061)
Observations		49	49	49	49	49
Adj. R-Square		0.3212 ***	0.3227 ***	0.3362 ***	0.3340 ***	0.3410 ***

Country=23, Standard errors in parentheses ***p<0.001, **p<0.01, *p<0.05, +p<0.1

Table 21. Fixed-Effects Models Predicting Chinese Firms' CBA Returns, 2000-2010; Target Country: USA

		Model1 CAR5	Model2 CAR5	Model3 CAR5	Model4 CAR5	Model5 CAR5
Productivity	H1		0.034 ***	0.026 ***	0.023	0.031 *
(Multilateral TFP Index)			(0.006)	(0.006)	(0.021)	(0.015)
Productivity* Cross-Listing	H2			0.055 **		0.065 ***
				(0.016)		(0.017)
Productivity* Institutional Experience Breadth	H3				0.073	0.236 +
					(0.013)	(0.128)
Moderators						
Cross-listing		0.009 ***	0.013 ***	0.004	0.013 ***	0.003 **
		(0.003)	(0.003)	(0.004)	(0.002)	(0.003)
Institutional Experience Breadth		0.094 ***	0.089 ***	0.081 ***	0.069 +	0.015 +
		(0.023)	(0.021)	(0.019)	(0.041)	(0.041)
Control Variable						
Deal Characteristics						
Deal Size		0.000	0.000	0.001	0.001	0.001
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Payment Type		-0.003	-0.002	-0.003	-0.003	-0.003
		(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
Nature of Bid		-0.002	-0.003	-0.002	-0.003	-0.003
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Multiple Bidder		0.003	0.002	0.001	0.001	0.001
		(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
Firm Characteristics						
Acquirer Firm Size		0.004	0.006	0.007	0.005	0.004
		(0.005)	(0.005)	(0.004)	(0.005)	(0.004)
Acquirer Leverage[b]		0.000	0.001	0.001	0.001	0.001
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Acquirer Firm Age		-0.000	-0.000	-0.000	-0.000	-0.000
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Acquisition Experience		-0.004	-0.003	-0.003	-0.003	-0.003
		(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
Acquirer's Past Performance		0.009	0.009	0.005	0.009	0.004
		(0.013)	(0.012)	(0.011)	(0.011)	(0.011)
Acquirer is SOE		0.007	0.004	0.004	0.004	0.004
		(0.004)	(0.004)	(0.003)	(0.004)	(0.004)
Target in High Tech Industry		0.001	0.001	0.002	0.002	0.002
		(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
Dyad Characteristics						
Acquirer & Target in different		-0.001	-0.003	-0.002	-0.002	-0.002
industries		(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
Institutional distance		0.002	-0.001	-0.002	-0.000	-0.001
		(0.006)	(0.005)	(0.005)	(0.005)	(0.005)
Year Dummy		Included	Included	Included	Included	Included
Industry Dummy		Included	Included	Included	Included	Included
Constant		-0.305	-0.043 +	-0.041 +	-0.037	-0.017
		(0.027)	(0.023)	(0.023)	(0.025)	(0.026)
Observations		124	124	124	124	124
Adj. R-Square		0.3737 ***	0.2727 ***	0.2876 ***	0.2728 ***	0.3031 ***

Country=23, Standard errors in parentheses ***p<0.001, **p<0.01, *p<0.05, +p<0.1

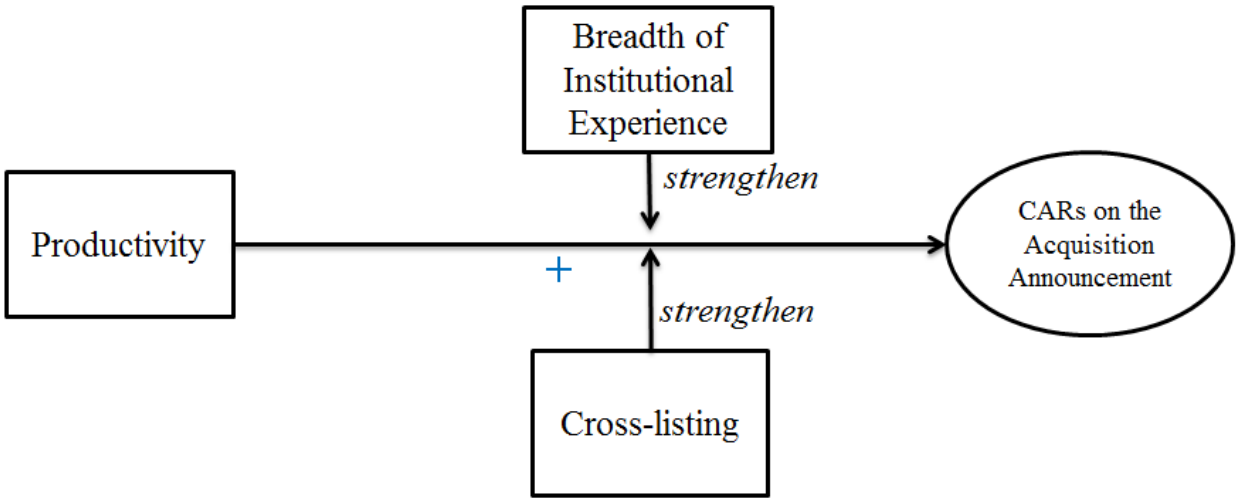
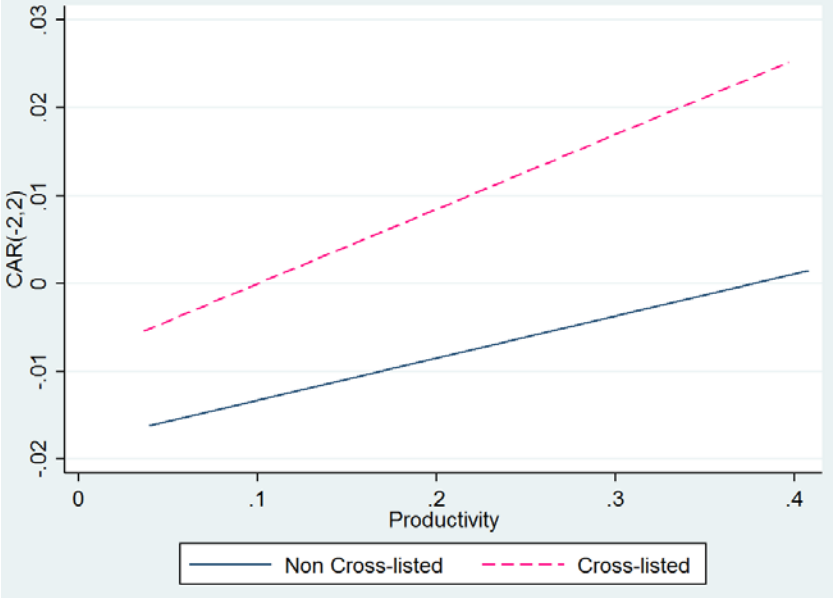
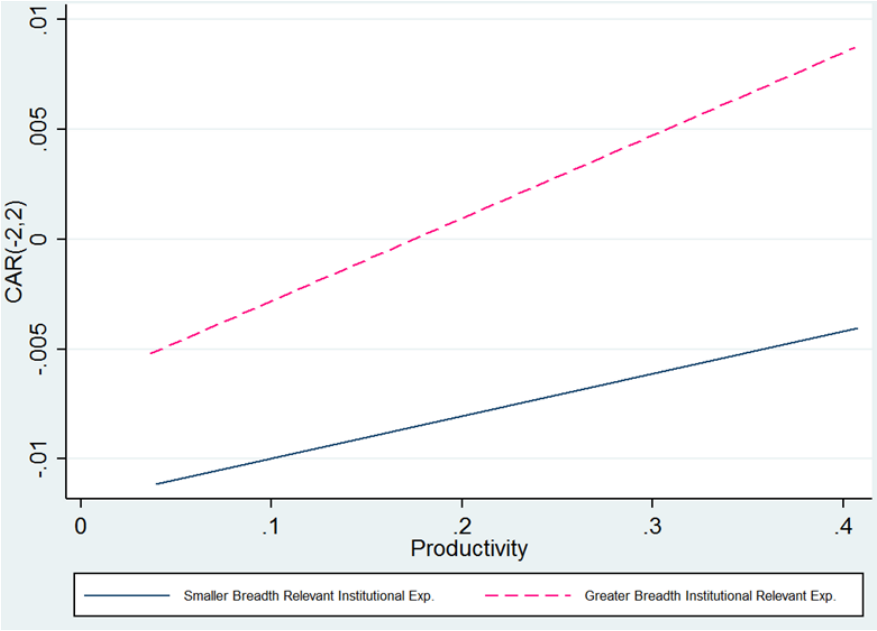


Figure 1. Theoretical Model



Panel A



Panel B

Figure 2. Effects of Cross-Listing and Breadth of Relevant Institutional Experience on the Relationship between Productivity and Cumulative Abnormal Returns

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